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ABSTRACT

The major part of this bulletin is a report on the European Documentation and Information System for Education (EUDISED) project. The report covers: (1) EUDISED and the general situation of educational information; (2) progress report of the EUDISED steering group; (3) national educational documentation projects; (4) international documentation systems; (5) structure and operation; (6) common standards; and (7) recommendations, principal tasks, resources, and prospects. The remainder of the bulletin is made up of reports of meetings of the Council for Cultural Cooperation and the Committees on Higher Education and Research, General and Technical Education, Out-of-School Education, Cultural Development, and Educational Documentation and Research. (DT)

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The Information Bulletin *which is distributed free of charge three times a year in an English and a French edition, informs on the educational, cultural and scientific activities of the Council of Europe and reprints important policy documents of European interest in these fields.*

First Part

Council for Cultural Co-operation

The meeting held in Strasbourg from 6th to 10th March 1972 marked the CCC's tenth anniversary. In addressing the delegates, the Deputy Secretary General of the Council of Europe, Mr. S. G. Sforza, sketched the results of the work of the CCC in the past years and outlined the possible developments of its activities in the future.
A summary of the main discussion items is given below :

PERMANENT EDUCATION

The CCC took the following decisions concerning the composition and working methods of the Steering Group on Permanent Education, whose creation had been decided at its previous session.

— The Steering Group will be composed of fourteen members in all—one representative from each of the three permanent committees and eleven experts on permanent education. (The CCC adopted a list of standing members, chosen from among candidatures submitted.)

— Any participating government may, in addition, set up teams composed of as many members as desired, to work in their countries. One of these members may at any time take the place of his country's standing representative on the Steering Group. It will be for each participating country to build up its own teams and to increase or change their membership as required, keeping the CCC informed.

— The members of the Steering Group should act as independent experts, whether they are in government employment or not, rather than speak on behalf of their governments.

— The permanent committees may, at any time, replace their representatives on the Steering Group by substitutes.

— The procedures to be followed by the Steering Group are left to the discretion of the Group itself.

Furthermore, the CCC gave its final approval to the criteria for the selection of pilot experiments for study and evaluation, considered at its previous session and subsequently endorsed by its Permanent Committees.

As regards the Recommendation 611 of the Consultative Assembly on permanent education, the CCC adopted a draft opinion, the main passages of which are printed below. The opinion will be submitted to the Committee of Ministers :

General policy considerations

— The Council for Cultural Co-operation has noted with interest Recommendation 611 of the Consultative Assembly which it welcomes as a positive contribution to its work on the problems of permanent education.

— It notes that the main purpose of this recommendation is to urge the Committee of Ministers to "ask the CCC to be guided by (certain) general and practical measures in its efforts to work out a system of permanent education to be proposed to States which are Parties to the European Cultural Convention."

— The CCC can state without reserve that it can agree in theory with the approach to the problems of permanent education outlined in Recommendation 611. When it comes to practical measures, however, a number of questions relating to terms of reference, resources and mutual responsabilities are raised.

— By its terms of reference, the CCC can only propose development patterns for educational reform in member States. It is for the States themselves to determine how these patterns could be used for the development of their internal educational systems. The Committee of Ministers, for its part, can bring its authority to bear on member States so that they follow up the work of the CCC. For instance, in some member States, meetings of decision-makers have already been organised to draw practical conclusions from the CCC's work on permanent education. Other member governments might be asked to follow this example. Moreover, the Committee of Ministers could ask member governments to report to the CCC on the difficulties encountered in applying the concept of permanent education, so that there may be a continuous confrontation between theory and practice.

— This said, the CCC wishes to recall that since the Recommendation was drafted, it has approved the study entitled "Permanent education : fundamentals for an integrated educational policy" as a general guideline for the future and has decided to set up two complementary steering groups on permanent education and on educational technology, as well as to devote a large proportion of its resources to research and development projects. It would draw the attention of the Committee of Ministers to these new developments as evidence that it generally agrees with the policy aim expressed in the preamble of the Recommendation.

— The above-mentioned study on permanent education may also be considered to meet the wish expressed by the Assembly. The next stage will be to attempt to reconcile the theory contained therein with practice. The CCC believes that the pilot experiments in member countries to be launched and evaluated by the Steering Group on Permanent Education will be the most effective immediate way of doing this on a European plane. It expresses the firm hope that the Committee of Ministers will use its political influence to ensure that these pilot experiments are initiated and financed by as many member governments as possible.

— The CCC would point out to the Committee of Ministers, however, that if governments are to "equip themselves with an educational system that enables every individual to achieve self-fulfilment by a lifelong process which integrates the whole range of educational influences", a long and costly series of reforms will have to be put in hand over the next few decades, as the unerlying aim of such a process combines the concepts of equal opportunity for all and the individualisation of education, that is to say increasing both quantity and quality.

Proposals for practical measures

I. *Long-term action*

— The CCC is generally in agreement with the Assembly on the long and short-term action proposed. However, it must be recognised that the growing points of its programme may not necessarily follow the Assembly's recommendation to the letter, not least because the CCC's present limited means do not allow it to make a simultaneous frontal attack on all problems. For instance, the problems of old age in relation to permanent education are among those which cannot be given priority while the CCC is concentrating on such vital sectors as basic education and recurrent adult education.

— As regards paragraphs 2 and 3 of this section of the Assembly's recommendation, perusal of the CCC's programme will show that the work on pre-school and primary education, on technical and vocational education, on curriculum development, as well as on the problem of the conversion of conventional libraries into audio-visual resource centres, are in line with the Assembly's wishes.

— As regards paragraph 4 of this section, the attention of the Committee of Ministers is drawn to the past and present work in the field of docimology for school and adult education. The underlying criteria mentioned by the Assembly have been noted with interest and are being taken into account in the CCC's work.

II. *Short-term action*

— The CCC is bound to express doubts about the feasibility of keeping catalogues of such complex and changing data as those listed in paragraph 4. The collection of such information will for many years to come remain a difficult problem even for national institutions. It believes, however, that it will be useful to produce periodical European surveys or trend reports on the new role and structures of adult education, taking as a point of departure a publication recently completed.

— The CCC agrees with the Assembly on the urgent need to study the problem of foreign language teaching at an early age, in order to see more clearly the possibilities of extending language teaching to primary and nursery schools. Special priority is being given in the near future to the problems of the early learning of a foreign language and to the relationship between the acquisition of a foreign language and of the mother tongue. Moreover, the publication in 1973 of a Guide to Exchanges will no doubt be of assistance in the training of language teachers.

— The CCC has already pointed out above that certain tasks advocated by the Assembly are at the moment beyond its means and field of action and has mentioned that this is particularly true of the proposed information campaign concerning permanent education. Nevertheless, the wide interest aroused by the compendium of studies on permanent education and by the document entitled "Fundamentals for an integrated educational policy" show that, limited though the CCC's possibilities for drawing attention to its work may be, its activities in this field have already gained a measure of public recognition. Here again the active help of national educational authorities and information media would be most valuable.

INTENSIFIED EUROPEAN CO-OPERATION IN THE FIELD OF EDUCATION

The proposals of the *ad hoc* Working Party which met at Strasbourg in December 1971 were communicated to the CCC. The CCC was called upon to examine further the practical means whereby the functions which have been envisaged for a European Office of Education can be progressively carried out within the CCC itself, particularly by means of special projects to be financed, and possibly staffed also, by those countries most directly interested.

The CCC discussed in detail the document submitted by the Working Party [CCC (71) 41] comprising two parts, the first of which is devoted to the definition of the concept of special projects and the practical rules for carrying them into effect, the second to the various possibilities suggested by the Secretariat for the launching of one or more special projects.

The CCC approved the principle of special projects and concluding the debate decided to:
— ask governments interested in a special project in the field of mobility to make known their views ;
— refer the Secretariat's proposals for a special project in the field of mobility to the Committee for Higher Education and Research for further examination ;
— instruct the Secretariat to assess the implications for the DECS staff of a possible increase in the number of teacher bursaries to about 1,000 per annum an a multilateral basis ;
— authorise the Secretariat to conclude an agreement of co-operation with CILT (Centre for Information on Language Teaching, London) for which the United Kingdom had made fonds available to enable it to undertake a Europeon role as a co-ordinating centre for research information on modern language teaching ;

— invite the Committee for General and Technical Education to consider at its next session questions of liaison between CILT and national centres ;

— instruct the Secretariat to submit its proposals for the restructuring of the modern language programme to the working party responsible for assessment of the programme in that field up to the end of 1972 ;

— convene a further meeting of the Working Party on intensified European educational co-operation for 9, 10 and 12 June 1972 ;

— instruct its Working Party to examine Recommendation 649 of the Consultative Assembly on European co-operation in the field of culture and education and to take account of it in its future discussions.

Concluding the debate on its future programme, the CCC reaffirmed its opinion that in view of its structure and composition it is itself ideally placed to act as the focus for educational co-operation between the countries covered by its membership and thus to assume progressively the tasks of a "European Office of Education". To this effect, it instructed the Secretariat to submit a note attempting a definition of these tasks and estimating the requirements in money and staff that would be entailed over a period of years. The Working Party was requested to examine this note and to report thereon to the CCC's session in September.

FUTURE OF EUROPEAN ART EXHIBITIONS

The continuation of the series of art exhibitions in a more up-to-date form was generally agreed upon by the CCC. In future, representatives of the mass media, of cultural institutions and other interested groups will be consulted at the planning stage.

Host countries were invited to assume full responsibility for organising and financing future exhibitions, while countries loaning works of art were asked to bear the transport and insurance costs for works loaned.

The Council of Europe, for its part, would extend its patronage to exhibitions of European significance, but limit its direct contribution to making a small grant spread over two years, and to facilitating co-operation between European States for the organisation of these exhibitions.

It was also decided that the Council of Europe should study the problem of insuring and transporting works of art, paying particular attention to the possibilities of reducing insurance premiums, which constitute the main obstacle not only to the organisation of Council of Europe exhibitions, but more generally to the exchange of art exhibits between European countries.

The 15th exhibition of the series, on "Popular art and traditions", will be organised by the Belgian Government in 1974.

Document : CCC (72) 14.

Salzburg *3rd - 5th May 1972*

Twenty-fifth meeting of the Committee

The spring meeting of the Committee concentrated its discussion mainly on two topics : the admission to higher education and curriculum reform and development. It was attended by senior officials and university representatives as well as by observers from UNESCO, OECD, the European Communities and the International Association of Universities, the International Institute of Education Planning and the League of Yugoslav Universities.

The meeting, chaired by Professor W. Waldstein, University of Salzburg, was introduced by an address given by Dr. Herta Firnberg, the Austrian Minister for Science and Research.

The main issues of the debate are outlined below :

Admission to higher education and numerus clausus

The Committee devoted a large part of its debate to this very complex problem. In examining the European Convention on the Equivalence of Diplomas leading to Admission to Universities, the Committee reached an agreement on the following points:

- Under the Convention, the host country should in no case proceed to a material examination of the foreign student's home certificate in an endeavour to find out whether it is really equivalent to the host country's upper secondary school leaving certificate.
- Governments and universities should be encouraged to have greater mutual confidence in the equivalence of each other's final school and university qualifications. There seems to be a trend in some governments and universities to assess levels and to recognise achievements globally instead of judging each case individually on its merits. This trend should be welcomed.
- Admission of foreign students should be made easier for those not wishing to take a full course and to sit for the final examination (i. e., students who want to spend a short period abroad and return to their own country for the examination).

The following are excerpts of the statement adopted by the Committee :

— The present text of Art. 1 Sec. 1 and 2 of the European Convention on the Equivalence of Diplomas leading to Admission to Universities reads :

> "1. Each contracting party shall recognise for the purpose of admission to the universities situated in its territory, admission which is subject to State control, the equivalence of those diplomas awarded in the territory of each other contracting party which constitute a requisite qualification for admission to similar institutions in the country in which these diplomas were awarded.
>
> 2. Admission to any university shall by subject to the availability of places."

— Since the adoption of the Convention, member States have tended to interpret this clause in different ways. The Committee feels that these differing interpretations are in danger of departing from the spirit of the Convention. The Committee is therefore of the opinion that it would be desirable to achieve, as in interim measure, an agreed version of how this clause should be interpreted in present circumstances, and therefore proposes that when a person applies for admission to a particular study programme in

a university outside his own country then that university should accept as sufficient for admission to this study programme a diploma or certificate which would have admitted the candidate to the same or a similar study programme in his country, provided that,

- the university to which he applies outside his own country may require him to produce evidence of competence in the language in which the study programme is given ;
- that the university may apply to him restrictions arising from "numerus clausus" provisions ;
- in cases where the foreign applicant intends to follow the full course of study prescribed, with a view to obtaining a degree or diploma, the university may require from him evidence of competence in particular subjects necessary, for the study programme to which he is seeking entry.

The Committee was of the opinion that a revision of the Convention must be envisaged if these difficulties could not be solved by interpretation of the texts.

Mention was also made of the admission of technicians to higher education. Technicians should have the same facilities of access to further education as is already the case with some other types of training.

The Committee furthermore discussed the implications resulting from the increasing numerus clausus restrictions at European universities. Numerus clausus is a general problem which concerns almost all the CCC member States. Numerus clausus in one country inevitably affects the neighbouring countries and students rejected at home seek admission abroad. This situation creates an increasing number of problems, in particular in countries which prefer to give preference to their own nationals.

Foreign students should, as far as possible, be allowed to apply for admission under the same conditions as a country's own nationals. An agreement on a common European admission policy for the benefit of both national and foreign students must be based on a number of principles to be applied by Governments and universities.

Curriculum reform and development

The necessity of innovation and reform were central themes in this second discussion item of the Committee meeting.

Growing international co-operation and mobility require a wider recognition of diplomas and degrees. On the other hand, the question of equivalence of diplomas is closely connected with curriculum reform. Also, certain traditions and attitudes in the universities present an obstacle to curriculum reform.

Merely administrative measures would not be enough to change the situation.

The Committee investigated furthermore into the methods of stimulating innovation. Should new curricula be defined by Government regulations or should universities be left free to experiment?

Another point that the participants stressed was the need for better and quicker information on new experiments with curriculum reform and the necessity of co-ordinating these developments in the interest of maintaining and increasing mobility of staff and students. European harmonisation of curriculum reform and development should, however, not result in model curricula.

Both of these last questions are going to be examined in forthcoming meetings.

Documents : CCC/ESR (72) 12; 14; 15; 18; 29; 47.

Strasbourg *13th - 14th April 1972*

Equivalence of diplomas
(Working Party)

Equivalence experts from five countries and an observer from the Commission of European Communities discussed, in this first meeting of the Working Party, questions relating to :

- the Equivalence Conventions,
- the Comparative Repertory of European Qualifications,
- the definition of minimum requirements,
- the improvement of equivalence information,
- the establishment of a system of equivalences.

Implementation and possible revision of the three Equivalence Conventions

The meeting agreed that at present there was no need to revise the three Equivalence Conventions on admission to universities, periods of study and the academic recognition of university qualifications. However, it was felt that the first Convention on admission to universities might give rise to certain problems of interpretation, in particular in cases of admission restrictions ("numerus clausus"). Furthermore, the Working Party supported the proposal to examine the possible extension of the Convention on the Equivalence of Periods of University Study from modern languages to such subjects as music, arts, theatre, journalism and sciences.

Improvement of equivalence information

The Working Party agreed that better and more reliable information on the exact nature and value of foreign certificates, diplomas, degrees and periods of study passed abroad would help to bring about wider recognition for both academic and professional purposes. Future action should aim at :

- a closer co-operation between national equivalence information centres or services and / or the establishment of a central service ;
- the use of a European Student's Record Book ;
- the standardisation of the texts of certificates and diplomas.

In this context, it was agreed that a study should be prepared by Mr. P. Berckx (Belgium) analysing the present system of equivalence information and defining the exact nature and scope of the information required by national services. This study will equally include suggestions for appropriate procedures to make such information available as completely and as quickly as possible. Another point to be dealt with by the author is the problem of falsification of diplomas.

Definition of minimum requirements

The participants in principle expressed themselves in favour of a generalised agreement on the acceptability on foreign diplomas and qualifications instead of too detailed definitions of requirements for the study at university level. However, since the present differences in educational systems and curricula in member States did not allow in many cases for such a generalised agreement to be reached, attempts should be made to define minimum requirements for the acquisition of university qualifications in the exact sciences, like physics, chemistry and in the newly emerging fields such as cybernetics and information sciences, etc. The definition of such minimum requirements would greatly facilitate the European harmonisation of university curricula. Although they may in the long run influence the entrance requirements for the professional careers corresponding to the

subjects taught, these minimum academic requirements would have to be elaborated regardless of any civil effect of the final diplomas.

Establishment of a system of equivalences

In Resolution No. 2 of their VIIth Conference, the European Ministers of Education invited the Council of Europe to establish "a system of equivalences based on the subject, the duration and the level of studies". The meeting felt that equivalence decisions could be facilitated greatly by elaborating a European system of classification for schools, colleges and universities. Member States, however, might find it difficult to agree to such a classification, as long as objective basis is not accepted. Moreover, a system of equivalences for periods of study abroad and for intermediary tests would virtually be impossible to achieve as long as curricula of European universities remain discordant and incongruous. To secure a gradual recognition of diplomas and degrees an assessment of their value must be carried out. Judgment in this case might be based on a number of criteria : length of course, subjects taught, teaching and learning methods, and teacher-student ratio.

As to the elaboration of an equivalent system of final qualifications, the meeting stated that the dividing line between academic and professional equivalences should in future be drawn more clearly. In this context, mention must be made of the division of labour between the Council of Europe and the Commission of the European Communities. The latter deals with professional equivalences ("effectus civilis") excluding questions of academic equivalence of first degrees. Thus the main field of action for the communities is the access to a professional career. The Council's work, on the other hand, endeavours to achieve greater mobility for students and university teachers, and to secure academic equivalence of qualifications.

Action in favour of academic equivalence would have to concentrate on :

- — the definition and legal protection of academics degrees;
- — the methods of defining equivalence of such degrees;
- — the establishment of a system of academic equivalences for first degrees, based possibly on minimum requirements; questions of effectus civilis to the care of the European Communities.

At present, generalised recognition of all existing diplomas does not seem to be feasible. The meeting, finally, welcomed the first volumes of the Comparative Repertory of European Qualifications as an extremely useful publication and recommended that the CCC continues to make grants for the volumes in preparation.

Documents : CCC/ESR (71) 35;
CCC/ESR (72) 20; 33.

Strasbourg *23rd May 1972*

Creation of a European Association for Research and Development in Higher Education

At the meeting of a group of experts on aims and objectives in higher education, a new international association grouping research workers and institutes specialising in studying and developing higher education in Europe was created under the auspices of the Committee for Higher Education and Research. The new non-governmental "European Association for Research and Development in Higher Education" is a non-profit-making organisation which has its seat in Zürich (Switzerland). It will closely co-operate with governmental and non-governmental international organisations working in the same field.

Its aims shall be :

— to promote educational research and development in Europe pertaining to higher education;

— to encourage the scholarly examination of phenomena and problems related to higher education;

— to contribute to the making by institutions of higher education of rational decisions about their aims, structures, curricula, teaching and evaluation, taking into account social and cultural changes and demands.

With these aims in view the Association shall :

— promote the establishment in European countries of research and development units for the study of problems related to higher education;

— promote the education and training of teachers for work in institutions of higher education, in particular those needed for giving courses in higher education as a subject;

— foster contact and collaboration between European research workers and scholars in the field of higher education;

— exchange and disseminate information on research and development in the field of higher education;

— promote and initiate joint activities for those engaged in research, development work, theory construction and the training of staff for work in institutions of higher education.

The Association shall operate by any or all of the following means :

— arranging European congresses, conferences, and symposia;

— organising study groups on specific topics;

— publishing and distributing monographs, documents, reports, etc.;

— promoting and or publishing journals on research and development in European higher education;

— editing and publishing abstracts of research and development in higher education;

— promoting the establishment of systems of documentation and information concerning research and innovation in higher education;

— promoting exchange and study visits of research workers carrying out research into higher education;

— co-operating with national and international bodies responsible for activities appropriate to the aims of the Association.

Full membership will be granted to research workers, academic staff and institutes specialising in research into higher education, planners, national and international agencies for research in post-secondary education, as well as information and documentation centres in this field. Non-European research workers and bodies may be admitted as associate members entitled to receive all publications und granted the observer status to the meetings arranged by the Association.

The Association will be administered by an Executive Committee composed of a Chairman, a Vice-Chairman, a Secretary and two other members selected by the General Assembly. The General Assembly, a decision-making body, will assume responsibilities. It will elect the Executive Committee and follow up its work, amend the Constitution and ratify Agreements with national and international bodies. It will be composed of all individuals, organisations and institutions who are full members.

The funds of the Association will be provided by membership subscriptions, the sale of publications and contributions from private and official sources.

Documents : CCC/ESR (71) 85 Rev.
CCC/ESR (72) 51.

11

General and Technical Education

York *13th - 19th December 1971*

Intensified courses for modern language teachers
(Symposium)

The Symposium was organised by the Government of the United Kingdom under the auspices of the Council of Europe. It was attended by delegates from sixteen member States as well as observers from the Goethe-Institut, L'Institut français, the British Council and several Language Teaching Centres.

The Symposium dealt with problems of modern language teaching directly related to the current situation in member States. These problems can be grouped as follows :

- In which sectors of education are modern language teachers in short supply? For which language? Why? Can such teacher shortage be foreseen and avoided, through suitable techniques of forecasting?
- What categories of intensified courses for language teachers can be supplied and for what categories of teachers are these courses most appropriate?
- What should be the aims, the various forms and the content of intensified courses for modern language teachers? What should be the function of short study visits to the country concerned?
- What are the best techniques of teaching to be applied in intensified courses : use of the new educational technology; suitable learning materials; value of conversation groups? Can the problems which arise with regard to the use of audio-visual methods be more closely identified?
- Should the certificate to be issued at the end of the course be a factual record of attendance or should it attempt a qualitative evaluation of the teacher's skills in teaching the foreign language?

Members of the Symposium defined an intensified course as a full-time, continuous course designed to initiate or improve a teacher's command of, and capacity to teach, a foreign language. The course must vary in length as the needs, quality and experience of the students vary. The work should usually be directed towards the spoken language, partly because of present-day needs and partly because of oral/audial studies can be intensified with the help of a tutor and of technological aids. Such courses may form part of a continuous scheme of training — a useful arrangement in countries where communications are difficult.

In view of the fact that the modern language skills are no longer the prerogative of the privileged few but the right of everyone, the Symposium was of the opinion that instruction in modern languages should begin as early as possible and should continue uninterruptedly.

As for teacher training, the Symposium recommended that the basic training should contain a core common for all teachers regardless of later specialisation. It should cover such fundamental subjects as psychology, sociology, curriculum planning, educational technology, etc. The nature of specialised studies (e. g. in languages) which completes the basic training must depend on the professional aim of each trainee. It is essential that the basic training should include a period of study abroad.

Consideration was also given to the increasing amount of knowledge required by the teacher which the period of basic training scarcely suffices to impart. The body of knowledge should therefore be broken down into a number of component units of which the most essential should be covered during the basic training and the rest at a later stage.

In the light of these general observations, participants made the following recommendations :

— Enquiries have been made from time to time to discover national language needs. Research is currently being carried out for this purpose in the United Kingdom. The results of these enquiries have still to be checked and implemented. Meanwhile, similar investigations should be set on foot in all other member countries. It should be emphasised that such national needs may have to be met by post-school measures.

— The techniques in intensified courses, which are mainly concerned with oral/audial attainment, should not exclude writing skill. In the case of intensified courses concerned with the improvement of oral skills, groups should be homogeneous.

— A diagnostic test on entry to courses is desirable, with two or three tests of attainment during the course, and a final test to show each course member the extent of his progress. In particular for the motivation of the younger teachers certification should be provided with certain safeguards : the form of testing must be sufficiently flexible to do justice to all the learners (who will possess varying levels of aptitude and ability), and it should be possible for teachers to follow the course without a statement of performance being issued, should they so wish.

— The methods advocated or exemplified in a course should be reflected in the subsequent provision of classroom aids made by the education authority.

— There should be adequate financial provision to enable teachers of modern languages to make study visits abroad. In this respect teachers of modern languages have a distinct and different need from teachers of other subjets because the visit to the country of their professed language is the most effective means of "recharging their batteries", or extending their scope.

— In no circumstances should emergency provision affect the approved and established methods of training and the professional requirements for qualification. A complete and adequate linguistic and professional training can only be acquired by means of basic studies. It is important that we should not, by use of intensified courses where there is no emergency, lend credence to the idea that these can be a substitute for normal forms of training."

— In arranging emergency provision it is important to ensure that there is a proper balance of professional expertise over the teaching force as a whole.

— It is increasingly urgent that each country should possess a modern language teaching centre. Among its functions should be responsibility for the collection and diffusion of information relating to intensified courses organised in its own and other countries. This would make possible a better distribution of effort and avoid overlapping. Alternatively, the work could be done by a special section of an interdisciplinary teaching centre.

— Intensified courses in methods of teaching their native language to foreign learners should be organised for students and graduate teachers who are going abroad to work in schools and universities. It would be useful to link such work with reciprocal courses involving incoming as well as home-based students and teachers.

Document : DECS/EGT (72) 15.

Berlin *21st - 22nd March 1972*

Coproduction of teaching materials for physics

(Meeting of experts)

In the framework of the project for the European coproduction of teaching materials a group of experts in physics and audio-visual media met to discuss the three projects in the course of preparation : "The Solar System", "Wave-Particle Duality" and "Electrostatics".

The various series are being prepared in the form of 16 mm films accompanied by 8 mm shorts, slides and printed material.

After a critical examination of the script of the films to be prepared in the various series and a viewing of the films already produced at national level, the experts agreed on the points set out in detail below :

— The series "The Solar System", which is intended for the 12/14 age-group, comprises a motivative 16 mm film "The Planetary System" (Federal Republic of Germany) accompanied by slides and three shorts on "The Speed of Light according to Olaf Römer" (Federal Republic of Germany), "The Physical Phenomena occurring on the Sun" (United Kingdom) and "Phases and Eclipses of the Moon" (France).

— The films prepared in the "Wave-Particle Duality" series were also viewed. The project, which has been approved as a whole, includes the main 16 mm film also called "Wave-Particle Duality" produced by the United Kingdom, four 8 mm films produced by the Federal Republic of Germany : "The Möllenstedt Experiment", "The Compton Effect", "Obtaining Einstein's Equation for the Photo-electric Effect" and "Taylor's Experiment", and an 8 mm film made by Austria, "Thermal Radiation of a Black Body". Three films remain to complete this series.

— The two shorts in the series "Electrostatics": "The Millikan experiment" and" The van de Graaf Generator" (both produced by the Federal Republic of Germany), were viewed and approved. A 16 mm introductory film "Everyday Phenomena in Electrostatics" is to be produced in France. The scripts of the film to be prepared were examined and discussed.

Three future projects are to be discussed in detail at the next meeting :

- a series on "Relativity". A film produced by the United States "Frames of Reference" was shown by way of introduction. It was decided to concentrate more particularly on this series in the coming years.
- "Physics and Solids". An inventory of the material existing in Europe is to be drawn up before the next meeting.
- "Elementary Science". The material for this future series should consist mainly of teaching kits. A questionnaire is to be sent to the various countries for an inventory of existing material before a final decision is taken on production.

Documents : DECS/EGT (71) 12; 15; 135; 142; 143; 145;
DECS/EGT (72) 2; 3; 18; 19; 20; 24; 33; 34; 35.

Karlskrona *5th - 12th May 1972*
(Sweden)

Curriculum planning and development for upper secondary education

(Symposium)

The Symposium examined various aspects of curriculum planning and development in two fields of study: natural and human sciences, taking into account in particular questions such as objectives, methods, interdisciplinarity, evaluation and curricular change.

In attempting to identity changes which are needed in present curricula in upper secondary education and in discussing their implication, delegates from twenty member States formulated recommendations the most important of which are published below :

Natural sciences

Pupils studying science at upper secondary level belong to different categories. A sharp distinction of these categories which include future professions ranging from teaching, research work, engineering, architecture to administration and commerce cannot be made. In examining in detail the knowledge, comprehension and skills which each category of pupils should master, the meeting considered any classification to be somewhat arbitrary. Nevertheless, the illustration in tabular form of objectives, methods and facilities for different categories provided a useful frame of reference to encourage curriculum planners to specify objectives and their implication in a more orderly fashion. A wide range of teaching methods should be developed in order to find the pattern most appropriate to the desired objectives and to the pupils of the 16 to 19 age group. Individual and group activities should also be encouraged.

As regards interdisciplinarity, an integrated teaching of physics, chemistry and biology at lower secondary level exist already in many countries. This is not yet the case for upper secondary level. There have been only attempts to combine physics and chemistry in "physical science". For pupils who are not going to specialise as scientists the introduction of a team of teachers representing all branches of science would be useful. Co-operation between the natural and human science departments in schools on interdisciplinary themes and educational games should also be considered.

Noting that assessment could have backwash effects on teaching, it was recommended that assessment procedures should have "the minimum negative backwash and maximum possible backwash effects". In this context, the purposes and types of assessment were reviewed. It was felt that, in assessment, emphasis should be placed on diagnostic assessment and internal continuous assessment methods which would promote maximum self-assessment by, and motivation of, the pupils. While it is essential to monitor non-cognitive development of individual students for orientation purposes, it is doubtful whether these ratings should be made available to prople outside the educational system.

Curricula should be re-appraised at regular intervals and priority should be given to developing two-way communication between curricular developers and practising teachers.

Human sciences

The following points are taken from the reports of the two working parties on the human sciences.

The study of human sciences should make pupils aware that societies undergo a continuous process of change not only in themselves, but also in relation to other societies. It should help them to understand the nature and causes of change, and to prepare them to be critically involved in it.

All pupils in upper secondary education should study a "common core" which would be supplemented by options. Within this "common core", an important place should be given to the teaching of human sciences.

The learning process should be supported by a multiplicity of teaching methods and resources. Objectives cannot be attained without the active participation of pupils. Also, pupils should be given chances to do personal work on subjects freely chosen by them. They should be introduced to use data both those which are specifically prepared for schools and those which are commonly used in everyday life, such as official forms, directives, statistics, etc. Field-work, case studies, simulation exercises and role-playing games were also thought to be helpful.

Various human science subjects can contribute to a programme of work. The following topics should be included in a wholly integrated human science programme: urbanisation and industrialisation, modern political forms, ideas and their development, and such modern problems of world society as non-renewable resources, the modern forms of migration and minority groups, culture clash, automatisation, etc. Each country would prepare its own list of topics which would have particular importance in its national context. In discussing questions relating to assessment, the participants stressed that premature imposition of external assessment procedures could have unfortunate backwash effects on fresh thinking about the purposes and scope of the human sciences. Internal assessment carried out within the frame of selected objectives, content, and methods would be both more useful and necessary.

As regards curricular change, participants were in favour of a rolling revision, stressing that this could be easily feasible within the existing institutional patterns. Teachers should be involved in the process of change. Consequently, they should have appropriate initial and further training. A dialogue both between schools and universities, and between lower and upper secondary education would help to promote reforms and innovations.

Documents : CCC/EGT (72) 16; 30; 31; 41.

Winterthur *(Switzerland)*

26th May - 2nd June 1972

Relations between technical and vocational education and industry

(Symposium)

At their meeting in Winterthur, delegates from nineteen member States tried to determine ways of stimulating and improving relations between school and industry with a view to promoting the technical and vocational education of young people.

The issues and problems raised were manifold : industrial needs and requirements, the part played by the school in meeting these requirements and the contribution that might be made by industry to the educational process.

At the Symposium, "industry" was used in the widest sense of the term, covering activities in all sectors of economic life : processing industries and associated branches, the business world and public and private administration. Similarly "technical and vocational education" and "the school" were construed as comprising all establishments providing theoretical or practical instruction, whether public or independent institutions or firms. Both the school and industry are responsible for training young people. Yet often their methods and requirements conflict and neither of the two worlds have looked into the possibilities for co-operation and reconciling their interests. They must seek to co-ordinate

the aims of the vocational education provided by teaching establishments with those of the job which the pupil would later perform.

The following conclusions were reached in the course of discussions :

— The pupil's education remains the focal point since he is the one who has to be provided both with purely vocational and practical training and with a general education;

— All teaching staff, whether in technical, vocational or general education, should in the course of their initial training spend some time in industry. In the case of specialised teachers, contact with industry should be kept up by means of refresher courses;

— One of the joint tasks of both school and industry was to inform and guide pupils in their decision on their future occupation;

— In view of the complexity and high cost of facilities and the need for highly skilled teams of specialists, centres should be envisaged which would group together pupils either from an entire region or from a suitably large number of schools and firms;

— Particular attention should be given to young people who had left school without receiving any vocational education;

— Industry and the school undertake joint psychological and educational research into technical and vocational education with a view to determining the most suitable teaching methods and resources;

— A study should be made of the unit/credit system so as to achieve some degree of rationalisation and harmonisation in respect of educational resources and methods of assessment leading to various qualifications.

Document : CCC/EGT (72) 19.

Out-of-School Education

Strasbourg *1st - 2nd February 1972*

The functional and cultural relevance of adult education

(Meeting of experts)

The problem of the relationship between employment and training, or more exactly of exploiting training courses in working life, was discussed by experts at the meeting on "The functional and cultural relevance of adult education : common trunk possibilities in vocational education, unit/credit systems".

In particular they :

— examined the conclusions of two preliminary studies on "Conceptual and technical problems of long-term educational planning", by Professor W. Clement, and "Job classifications and common trunk training courses", by Professor J. Vincens ;

— made proposals for a system of recurrent training for adults.

If the training of adults is to be seen as a continuous process troughout working life, its subject-matter must be rearranged in flexible but coherent systems designed to satisfy the

needs of the individual and society. Learner-centred education (i. e., education adapted to the individual's problems and interests), participation, concerted action and the individualisation of education are the keynotes of a policy of recurrent training. The improvement of the vocational and cultural standards of the working population should contribute to facilitate occupational mobility and enable individuals to master the problems arising from socio-economic and socio-cultural change. This will obviously affect institutions and entail the use of more advanced forecasting and planning techniques than were required in first-generation educational planning.

The rational preparation of such a development pattern implies preliminary investigations and research in the several fields briefly indicated below.

Permanent education and access to employment

The various job descriptions and classifications existing or in preparation in the member countries should be extended and studied thoroughly. To avoid numerous difficulties it is essential to start giving thought to the relationship between permanent education and the means of access to employment. A study of the means of access to employment should analyse both the traditional training system and that based on permanent education.

Professional flexibility and mobility

The constant change in the content of certain jobs, the emergence of new jobs and the transformation of the organisational structures of trade and industry, the civil service, etc., is a familiar problem. How is it to be faced? The main task is to identify the factors favouring adaptation to the future evolution of jobs ("key qualifications") and draw the consequences for education. It will also be useful to make an inventory of all current or recently completed research on the flexibility and mobility of trained labour.

Research on the interdependence between the length, contents and level of apprenticeship on the one hand and mobility on the other should be directed towards filling existing empirical gaps. For some years research has been conducted in a number of countries on the questions of mobility, substitution, transfer and flexibility. By far the most fruitful research relates to the effective inter-occupational mobility of workers with the same training, the similarity of identity of the contents of various training curricula, the varying practice of employers as regards appointments and the classification of workers with alternative potentialities. This acquired practical knowledge should be made available for future use at all three stages : i. e., initial training, further training and advanced training.

Another important task will be the analysis of problems connected with the development of training curricula and the application of the principle of learner-centred education. In this connection studies should be undertaken on :

- — breakdown of training curricula into interest-based units,
- — key qualifications,
- — the construction of common trunks,
- — the multi-disciplinary approach.

Documents : CCC/EES (71) 126 ; 140 ;
CCC/EES (72) 19.

Strasbourg *14th April 1972*

A unit/credit system for modern language learning in adult education

(Meeting of experts)

In the last years, the Committee for Out-of-School Education and Cultural Development has selected modern languages as a key area for the development and application of a pilot unit/credit scheme aiming at :

- Breaking down the global concept of language into units and sub-units based on an analysis of particular groups of adult learners, in terms of the communication situations in which they are characteristically involved ;
- Setting up on the basis of this analysis an operational specification for learning objectives ;
- Formulating in consultation with the Steering Group on Educational Technology, a plan defining the structure of multi-media language learning systems.

A group of experts, under the Chairmanship of Professor J. L. M. Trim (United Kingdom), has met several times to investigate the feasibility of a European unit/credit system for adult language learning.

At their meeting on 14th April the experts discussed details concerning the Symposium to be held in Austria in June 1973 on "A European unit/credit scheme for modern languages in adult education". They also exchanged information on the progress of their studies on "Analysis of the problems involved in defining a basic competence level in foreign language learning by adults", by J. A. van Ek (Netherlands); "Model for the definition of adult language needs" by R. Richterich (Switzerland) and "Investigation into the linguistic and situational content of the common core in a credit/unit system" by D. Wilkins (United Kingdom).

As for the Symposium to be held in Austria next year, it was agreed that it should in particular gather and exchange information about :

— surveys of national needs in the language field, and an assessment of the kind and intensity of use made of particular foreign languages by different groups of adults;

— existing provisions for adult language learning and teaching in member countries;

— the relevant characteristics of adult learners and the proportion of different types;

— existing definitions or descriptions of foreign language learning objectives for all age groups and for all types of learners. These will assist in formulating the objectives of unit/credit systems, in establishing the correspondence between levels in the unit/credit system and those distinguished in formal education in different countries, and in establishing the prior knowledge which can reasonably be presupposed of adult-learners of different languages in different countries according to the level of their previous education;

— plans for the development of systems approached language teaching, particularly multi-media language courses and methods of individualised instruction, in so far as they are relevant to adult language learning.

Documents : CCC/EES (72) 17; 49; 67;
EES/Symposium 57, 1.

Rungsted Kyst
(Denmark)

29th May - 3rd June 1972

Public libraries and permanent education
(Symposium)

Librarians and adult education specialists discussed the future role of the public libraries in adult education with particular emphasis on their contribution to multi-media learning systems.

The discussion focused upon three topics :

— the relationship between the public library system and the educational system ;

— the function of the public library in making educational media available ;

— the function of a library as an agency of community development.

Some of the main conclusions are set out below :

— It was generally agreed that the public library service has a central importance in identifying the educational, cultural and social needs of all the components of the society : the community, the groups and the individuals at every educational level. Public libraries must act more and more as educational information centres.

— The public library should therefore provide all relevant material to meet identifiable educational and cultural needs. All types of materials used to record print, pictures, sound and any combinations of these, both those currently in use and future forms, should be made available through the public library without restrictions, as is the case with books.

— Librarians should receive a full educational training. In addition, part-time educational advisers—adult educationalists, educational technologists, etc. — should be engaged to work in the bigger libraries for consultation by individuals and groups in learning situations.

— Public libraries have a task to fulfil in helping groups and individuals to define their educational aims and in organising a feedback process to the producers of software. They might even play a role in the divising of software. They should also be concerned with hardware development and application.

— As regards the apparatus to be used for exploiting audio-visual media, the library service should provide hardware for use by individuals and groups both in the library and for loan.

— The users of public libraries must be given an opportunity of participating in library policy. In this context, they may contribute to a decentralised (consumer and learner-centered) culture policy.

— An organisation of public libraries into a system facilitating access to any library within the system would be very desirable. This would increase their cost effectiveness.

— To meet the educational and cultural needs of the community, school library services and public library services should closely co-operate even if they are separatly organised. To this effect, advisory committees should be constituted in all communities comprising experienced representatives of all organisations and agencies serving in some way or other the public within the educational, cultural and social patterns of the community. These may include adult education institutions, schools and colleges, community and social work groups, theatres, museums and media institutions.

The advisory committees should identify current educational and cultural trends,

plan and co-ordinate services and act as "pressure groups" and "animateurs" towards the responsible authorities.

By means of these committees, cultural life of the community may obtain a more concerted organisation and isolated activities as well as duplication would be avoided. The extent to which such committees might exercise responsibility would, of course, vary according to local and other circumstances.

— The public library should thus become part of, should in fact be an active cell, within the system of permanent education. It may fulfil many functions, such as stimulation of individual reading, information and guidance of the users on the potentialities of the various media now available in libraries for both individual study and group work as well as for any other socio-cultural work.

— The public library service should be considered as a public service to be made compulsory by legislation in all European countries. All types of public library services should be rendered free of charge in all countries.

— The further development of public library standards could assist countries with less developed library systems. The International Federation of Libraries Association (IFLA) might contribute a valuable work if it sought endorsement of the views embodied in the forthcoming revised standards from multi-national bodies such as the Council of Europe.

— Difficulties concerning copyright questions should be solved as regards for instance the recording of radio and TV programmes. It would be desirable that this task be done by, or under the auspices of the Council of Europe.

Documents : EES/Symposium 55,1; 55,2; 55,3.

Cultural Development

Arc-et-Senans *11th April 1972*
(France)

Future of cultural development
(Symposium)

In collaboration with the Council of Europe, the French Committee of the European Cultural Foundation and the Foundation for Cultural Development have gathered an international group of specialists representing various disciplines to study the development prospects of advanced societies. The Symposium was placed under the patronage of Mr. J. Duhamel, the French Minister for Cultural Affairs. The role that culture is called upon to play in this development was at the core of discussions at the Arc-et-Senans Symposium. The participants concluded that policies for cultural action can, and indeed, must, henceforth have a determining influence in shaping the future.

Their thinking has led them to warn governments, public opinion and those who guide it, of the threats to which our societies will be subjected in the future. The broad ideas that emerged from their discussions are here given in outline :

Industrial development : What is the future?

Left to itself, industrial and technological development exhausts the resources of nature

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and turns against man. The increasing awareness of the social costs of this development and its negative by-products are such that there are widespread doubts about its future.

The future has already begun, but in a society made up of heterogeneous and contradictory elements there is a refusal to recognize this. These disparate elements, however, cannot be examined in isolation, since they are concomitant and interdependent. Their repercussions on the very conditions of human existence together constitute a major threat.

Hence we can no longer countenance the irresponsible game indulged in by governments in allowing the uncontrolled development of technological potential instead of recognising the essential needs and giving them priority over artificial needs created by the profit motive.

The future of man cannot simply emerge from a computer with the inevitability of fate : the "heavy trends" of society, including the population aspect, are not irreversible if only responsible policy-making is backed up by all the weight of those diverse values, cultures and social forces which alone can keep a check on the socio-economic processes now threatening the biosphere.

While there can be no question of arresting economic growth — if only because of the situation in the Third World — culture must strongly assert itself in order to turn quantitative growth into an improvement of the quality of life. The aim of cultural action, then, is to permit the re-thinking of society along different lines, and to promote in each individual a sense of responsibility for its possible development, enable him to face up to crises and be the master, not the slave, of his fate. Any cultural policy implies an ethical dimension.

Culture at the crossroads

Culture, as experienced by the majority of the population today, means much more than traditional art and the humanities. Nowadays, culture embraces the education system, the mass media, the cultural industries : newspapers, books, records, video-cassettes, the cinema, advertising, housing design, fashion.

The school system is in a state of crisis, satisfying neither society's needs nor individual aspirations. Technological innovation and the way in which the confines of knowledge are constantly enlarged, urgently demand a transformation of the existing system into a pattern of permanent education, one of whose prerequisites is the "de-schooling" of curricula and educational institutions.

People today are subjected to an indiscriminate barrage of information from the mass media. The result is supersaturation : the individual lacks the means to cope with it. Once he had a mind of his own; now he is becoming a mere target for information.

The cultural industries are activated by the profit motive and market forces : they are shaping an environment and begetting practices whose uncontrolled development cannot be condoned.

Art and its institutions, the dissemination of established culture are just as foreign to most sections of the population as they are to fringe groups and new social categories (young people, immigrants, etc.).

Their cultural alienation and their being deprived of the opportunity to express themselves leave a void which present-day ideologies are unable to fill : what is being said no longer corresponds to reality. And so there emerge a number of positive or negative phenomena : the use of new means of expression or escape, the growth of drop-out cultures, new forms of mysticism, resurgence of magic drugs, etc.

Bookish, academic culture is degenerating. For want of authenticity, it is becoming marginal and even encouraging certain forms of nihilism.

The crisis in culture is symptomatic of the crisis in the established order: though cultural policy alone cannot aspire to solve the general crisis, it can and must help every individual to cope with it and help society to "manage" it.

A new approach

— The underlying purpose of any cultural policy is to bring all possible means to bear in order to develop ways and means of expression and to ensure complete freedom in their use. Man's right to follow a meaningful way of life and to embrace meaningful social practises must be recognised. It follows that conditions favourable to creativity must be fostered wherever they are seen to exist; cultural diversity must be acknowledged, the sectors where it is weakest being guaranteed every chance of survival and development.

— Effective, practical solutions cannot be found without fundamental research and experimentation. Contrary to the trend which may be currently observed and is reflected in most budgetary policies, encouragement must be given to efforts to secure long-term financing for fundamental research in the social sciences. Similar efforts must at the same time be devoted to perfecting methods.

— Immediate action is already required in order to :

- accelerate conversion of the school system into a permanent education system which satisfies interests and needs of the different groups of the population ;
- sever the mass communication agencies from the influence of political authority and economic power (monopolies, etc.) ;
- define and implement a policy aimed at the cultural industries ;
- create the conditions for a decentralised and pluralistic "cultural democracy" in which the individual can play an active part.

— Hence the urgency of :

- devising a differentiated system of "cultural workshops" and "social laboratories" and any other facilities by means of which the use of new technologies lending themselves to interpersonal exchange can be learned and practised ;
- instituting more direct links between cultural institutions and economic and social forces ;
- basing education on the principle of self-teaching and development of the critical faculty by transforming structures which tend to sterilise it (educational centralism, bureaucracy and explicit or latent totalitarianism of all kinds) ;
- defining national and international cultural technology policies and providing the necessary resources for their implementation.

Conclusions

The heavy responsability which has fallen on to our shoulders and the technical possibilities now at society's disposal make it necessary and possible to bring about a reversal of policy, with the following aims in view :

— to replace passive consumption by individual creativity ;

— to break the constrictive hold of technology so as to allow room for human responsibility ;

— to replace democratisation of inherited or elitist culture by diversity of cultural expression founded in social pluralism ;

— to give priority to restoring harmony between man and his environment ;

— to substitute for a cultural system aimed at reproducing the present state of affairs a system directed towards protecting — including protection in political and technical terms — groups and individuals whose creative abilities offer the best means of coping with the situations created by the shock effect of the future.

Document : Final report.

Paris *4th - 5th May 1972*

Television, new broadcasting techniques and cultural development

(Meeting of experts)

The many prospects opened up by new audio-visual communication techniques call for concerted thinking in order to be able to draw up effective and realistic cultural policies. It is therefore essential, without delay, to devise instruments for evaluating the degree of probability of forecasts und fix the direction of various practical schemes.

In numerous analyses the technological element has so far prevailed over other considerations. Forecasts on the future of new techniques have in general neglected two very important features : economic pressures and the receptivity of the public. To assess its needs, account must be taken of the chances of messages really getting across to an audience and being understood by it. An assessment must be made of resources not only at consumption but also at production level. It is also important to take into account the specific natur of different mass communica tion techniques and to finalise a planning strategy in the cultural field. Finally, the framework of the various techniques should be considered in relation to economic and political requirements in a particular social context.

The discussion centered around a consolidated report prepared by the project director, Mr. R. Wangermée, Director General of the Belgian Broadcasting Corporation. The titles of eleven prospective studies, on which the Wangermée report was based, are as follows :

— "Future aspects of society and the mass-media in Europe", by U. Magnus (Federal Republic of Germany) ;

— "Concerning a European satellite — problems and prospects", by M. Bezencon (Switzerland) ;

— "Cultural uses of a European satellite with receiving stations", by R. Lefranc (France) ;

— "Programme distribution in the present-day world", by G. Thoveron (Belgium) ;

— "Development prospects of programme distribution", by J. Garcia Jimenez (Spain) ;

— "Audio-visual cassettes : European perspectives", by L. Beretta Anguissola (Italy) ;

— "Audiovision for information and entertainment", by J. Knoll (Federal Republic of Germany) ;

— "The video-cassette", by J. C. Batz (Belgium) ;

— "Evolution of the public networks of television", by P. Schaeffer (France) ;

— "Forecasting in cultural technology", by the Fondation pour le Développement Culturel, Paris ;

— "Satellite Broadcasting for Europe", by E. Ploman (United Kingdom).

Two other studies are in preparation :

— "Problems of producing programmes for cassettes", by A. François (France) ;

— "Remarks on television programmes by and for restricted communities", by A. Girard (France).

Commissioned from European specialists, these studies were prepared according to a general plan devised by Mr. Wangermée. They constitute the first coherent body of forward thinking on the long-term problems with which the emergence of new techniques in some way connected with television is already, or will shortly, be confronting governments.

The meeting succeeded in defining a certain number of working hypotheses on which the responsible organs would have to come to a decision. They may be grouped as follows :

Projects for pilot schemes

A European satellite can be operational in 1980. Thought should therefore be given now to the composition of its programmes, e. g. by means of simulated television broadcasts. Pride of place should no longer be given solely to sport and news. Plays and musical competitions could occupy an increasing part of the programmes.

Draft Recommendations

These should cover :

- The need for national and European communications' policies embracing all the new media as well as traditional systems (books, theatre, etc.) ;
- The institutional deconcentration of communication monopolies and industries ;
- The control and guidance of government investment in the new techniques so as to prevent the risk of wastage.

Subjects for study

Among the subjects suggested the following may be noted :

- The cost of broadcasting television programmes by satellite ;
- The language barrier in satellite television broadcasts ;
- The place of advertising in the new media ;
- Two-channel cable television systems ;
- Prospects for new techniques of transmitting culture in certain countries ;
- Experiments in local broadcasting in the United Kingdom.

Documents : CCC/EES (72) 43 ; 44.

San Remo *26th - 29th May 1972*
(Italy)

Methods of managing socio-cultural facilities to be applied in pilot experiments

(Symposium)

The Symposium organised by the Italian Government has brought together some sixty participants, comprising delegates of twenty-one member States, rapporteurs and observers. The aim of this meeting was to discuss :

- methods and techniques for analysing motivations and needs for socio-cultural animation in specific social contexts ;
- methods and techniques for developing and carrying out socio-cultural activity programmes adapted to particular types of facility and specific social context ;
- problems in assessing socio-cultural experiments.

All the European countries are at present making efforts to find new ways forward in the field of work known as socio-cultural animation. They are seeking more effective methods and facilities, trying to identify the qualities and skills that make a good animateur, searching for forms of training which will promote these qualities and skills. Reflecting the interest of national delegations, the Cultural Development Programme of the CCC has come to conclude a substantial element concerned with facilities, methods and training for socio-cultural animation.

To this effect, the San Remo Symposium has proposed a number of guiding principles for the future :

— Socio-cultural animation presupposes a cultural policy based on a desire for "cultural democracy". It assumes acceptance of that aim at all levels and the will to bring the spheres in which decisions are taken ever closer to the persons and groups, the quality and meaning of whose lives are concerned.

— Socio-cultural animation is comprehensive and encompasses fields extending beyond those of leisure and education as we understand them today. Links will undoubtedly have to be established with all educational institutions with a view to permanent education ; but such links must not restrict the independent nature of animation.

— The experimental character of socio-cultural animation must not imply any limitation of its scope. The aim must be to progressively create a complete network covering the whole of national territory.

— As research, the analysis of needs, the programming of activities and the evaluation of results are all part of animation as whole, methodologies, the freedom of action given to persons and the consultation carried on in each of these spheres must be in accordance with the principles of animation itself.

— Socio-cultural animation cannot be "authentic" if it restricts participation solely to short-term programmes. It presupposes the widest collaboration between the persons involved in these programmes and local, regional and national authorities responsible for carrying out a policy in this matter. The action such authorities take must, to an increasing degree, be determined by contractual decisions binding on the partners after frank negotiations between persons able to express themselves freely in the defining of aims and methods.

— An animateur's functions are complex : they call for a combination of technical abilities, a welcoming manner and a sense of responsibility towards the communities in his charge and towards the political and social institutions. But that responsibility must not restrict his autonomy. On the contrary, because of its very complexity, the animateur's function makes it imperative that he should enjoy a high degree of independence in his work.

  The status and permanent training implied by these different requirements make research with a view to new innovative and flexible regulations urgently necessary.

— The Council of Europe was strongly urged to promote the development and extension of pilot experiments in all the member States of the Council for Cultural Co-operation. Experimentation on a vast scale would have the advantage of clearly defining the outlines, aims and limits of the socio-cultural animation now taking shape. That would provide a valuable source of information and experience which the Council of Europe could undertake to assemble and disseminate widely. Though it is not intended to propose a rigid frame of reference, it does seem necessary to define, in the near future, a minimum statute to be drawn up in collaboration with the national and local authorities to protect these experiments over a period of time to be specified. It also seems desirable that such experiments should be chosen by mutual agreement between the parties concerned (Council of Europe, governments, animateurs). The future procedure migh be based on the measures devised for the experimental study of the cultural development of twelve European towns.

Document : EES/Symposium 54, 10.

Educational Documentation and Research

Strasbourg *13th - 14th April 1972*

Ad hoc Committee for Educational Documentation and Research

The annual meeting of the Committee was attended by experts nominated by the Governments of fifteen member States and by observers from UNESCO/IBE and the Commission of the European Communities. The meeting was chaired by M. J. Viet, Paris, the rapporteur of the EUDISED project who was elected Chairman of the Committee for the years 1972 and 1973.

The main point on the agenda was the report of the EUDISED Steering Group 1971 and the six technical studies commissioned on its recommendation (published by the Documentation Centre for Education in Europe, 2 vols., Strasbourg 1972). The Committee expressed their acknowledgment of the work done by the Steering Group and endorsed in principle the report which makes detailed proposals for ensuring co-ordination and technical compatibility of computerised projects for educational documentation and information in member States. Of the twelve Recommendations in the report, ten were adopted and two which concern the long-term development of EUDISED were held over.

The Committee set up a working party on formats and standards for the interchange of information on education materials, under the chairmanship of Mr. R. E. Coward, London, and a working party on the multilingual EUDISED thesaurus, of which Mr. K. Spangenberg, Berlin, is Chairman and Mr. Viet, Paris, rapporteur. The working parties were requested to submit their draft reports to the Committee for further examination by the end of 1973. The Committee also recommended the commissioning, in 1972 and 1973, of a number of technical studies pertaining to main themes of the working parties.

Since EUDISED is essentially a system for promoting and co-ordinating advanced national projects in this field, the implications of EUDISED at the national level were considered in great detail at the meeting. Ten delegations were able to report that in their countries EUDISED National Committees or bodies in similar functions had already been set up or were about to be created. These national bodies will act as liaison agencies to EUDISED, uniting the efforts of the various educational documentation and information services at the national level, and contributing to their integration into the emerging co-operative system at the European level.

Document : DECS/Doc (72) 4.

Strasbourg *20th - 21st June 1971*

Educational research

(Fourth Annual Meeting of the Committee)

The Educational Research Committee, constituted in 1969, held its forth annual meeting which was attended by delegations, each comprising a director of a national research organisation and a representative of the Ministry of Education, of sixteen member States and by observers from UNESCO, OECD and the European Cultural Foundation. The meeting was chaired by Mr. L. Legrand, Director of Research, National Institute for Educational Research and Documentation, Paris. Participants reviewed the present state of the

Committee's activities which are centered on various forms of co-operation in educational research at a European scale, and took a number of decisions on proposals submitted by working parties for the further development of the Committee's work programme. The main result of the deliberations were :

Educational Research Information

The European Surveys of Educational Research which were carried out in 1968 and 1970, and published by the Documentation Centre for Education in Europe, will be continued on three lines.

In future, every year each member Government will carry out and publish in the national language and in English or French, if different from the national language, a survey of the on-going and completed *educational research projects* in the country. These surveys will be based on the common questionnaire agreed upon by the Committee. The editors of the national surveys will meet annually in Strasbourg to ensure the coordination of the project.

The European surveys of *educational research policies* of member Governments will, as hitherto, be carried out by the Secretariat at two year intervals. The Committee agreed on the questionnaire for the 1972 survey and discussed a 'model reply' which was prepared by the French delegation to be sent out together with the questionnaire. A comparative analysis of the replies received will be undertaken by Mr. Legrand and published together with the replies.

European surveys of *educational research organisations* in member States will be carried out at three to four year intervals, the first being in 1973.

The Committee agreed on the publication of a series of four *European Trend Reports on Educational Research*. An outline of each Trend Report had been prepared by an expert and was discussed in great detail by participants. Six member Governments had submitted proposals for authors of the Trend Reports. The Committee decided to request the Secretariat to commission the following reports from

Professor K.-G. Stukat, Gothenburg School of Education, on research concerning pre-school education with particular reference to compensatory education for disadvantaged children

Mr. R. Begarra, Conseiller at the French Ministry of Education, Paris, on research concerning guidance and counselling

Professor Dr. K.-H. Ingenkamp, University of Landau, on research concerning techniques of evaluation and continuous assessment

Professor J. Wrigley, University of Reading, on research concerning models for curriculum development.

Educational Research Symposia

Reports were given on the symposia held in 1971, in Switzerland on research into the teaching of reading and in Finland on research into pre-school education. In October 1972 a symposium on research concerning the education of the 16-19 age group will be organised at Sèvres by the French authorities, under the auspices of the Council of Europe.
Further educational research Symposia will be held dealing with the evaluation of comprehensive school experiments (Frankfurt, mid-1973); teacher training (Bristol, April 1973) and the education of the disadvantaged (Ghent, autumn 1973).

Colloquia of Directors of Educational Research Organisations

The conclusions reached at the London Colloquium in November 1971 were discussed in detail. A Working Party composed of experts from Belgium, France, Federal Republic of

Germany, Italy and the United Kingdom was set up to prepare a report and to draft recommendations for the 1973 annual meeting on the improvement of the training and career structures of educational researchers. Professor K. Härnqvist of the University of Gothenburg, Sweden, was elected Chairman of the Working Party.

The London Colloquium will be followed up by a colloquium in Paris in the autumn of 1973 at which the main themes will be : the role of the researcher as an adviser to the educational policy maker, and the role of the researcher as an agent of innovation in the classroom.

Visits Project

Six reports on visits by Committee members to educational research organisations in countries other than their own were submitted to the meeting. The discussion revealed that the visits had helped to establish not only personal contacts and regular exchanges of publications, but also active co-operation in a number of projects between several research organisations. The Committee therefore decided to request that the visits project be continued in 1974.

Professor S. Marklund, who is Head of the Research and Development Bureau of the Swedish National Board of Education, was elected to the Chair for the years 1973 and 1974.

Documents : DECS/Rech (72) 17; 21; 24; 25.

Second Part

EUDISED - REPORT OF THE STEERING GROUP 1971

We publish below the EUDISED Report 1971 which was endorsed in principle by the ad hoc *Committee for Educational Documentation and Information meeting at Strasbourg on 13-14 April 1972. The report contains seven chapters :*

i. The EUDISED project comes at a time of general crisis in the information services and of challenge to accepted educational principles, when the traditional systems of educational documentation are in need of a complete overhaul. As no such overhaul is possible without reference to computer techniques, sooner or later the problem of compatibility of systems will arise. EUDISED is defined as the point at which this compatibility can be achieved.

ii. The conclusions of the first EUDISED Report are recalled, together with the mandate the Steering Group was given in October 1970 ; the composition and nature of the Steering Group are described ; an account is given of the Group's meetings and of the missions undertaken by its rapporteur ; mention is then made of the studies commissioned from outside experts and of the inventory of advanced projects which the Group carried out.

iii. The situation of educational documentation in the member States is described on the basis of information gained from answers to a questionnaire. The main characteristics of computer-based documentation projects are highlighted, and an account is given of moves being made to modernise documentation, stressing the small number of institutions concerned, the rapid succession of technical changes and the wide variety of systems.

iv. The context of EUDISED is examined, according to whether the documentation services likely to affect it on an international scale are in Europe itself, within the international organisations, or in countries outside Europe. The following organisations are considered in turn, together with their programmes : the European Bureau of Adult Education, the International Bureau of Education, the International Documentation Network on economic and social development, the International Labour Office. The ERIC system is also discussed.

v. The report describes in detail the structure and operation of EUDISED. First it deals with its organisation at national level, emphasising the priority given to national information processing systems, identifying the institutions likely to co-operate and defining the functions of the National Co-ordinating Centres and of the Specialised Documentation Centres. An account is given of the machinery of information interchange within Europe and the place of EUDISED in a world-wide system ; the role of the EUDISED Co-ordinating Centre is then defined, and the question of its most suitable location discussed.

vi. Reference is made to UNISIST and to the technical arrangements that would be necessary for setting up a world science information system ; the question of common standards for EUDISED is then discussed at length. These standards concern, in order : a permanent inventory of educational documentation resources in member States, collection and analysis of numerical data, dissemination of information on research, description of scientific periodicals, bibliographic description and formats for machine communication, inventories of teaching media, methods of documentation analysis, and the preparation of the multilingual EUDISED thesaurus.

vii. The Steering Group takes stock of its work, emphasising the need for European co-operation in data processing, and gives a list of the tasks that remain to be completed. It requests that the resources indispensable for this purpose be made available and justifies its confidence in the future of EUDISED by reference to technological progress and trends in cultural policy.

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01. Recommendations

WHEREAS EUDISED is a project implying computer treatment of educational documentation and information, whose primary aim is to co-ordinate advances made in that respect in the European countries and which must therefore define appropriate standards to provide the component parts of a common system, the Steering Group recommends :

i. That in the preparation and implementation of EUDISED, careful account be taken of the *international context* in which the system is to be introduced, including both the initiative taken to set up the World Science Information System (UNISIST), and the documentation services already being operated by international organisations such as the ILO, UNESCO/IBE and OECD or in countries outside Europe (the ERIC system in the United States, for example). (See § 44 of this Report.)

ii. That equally careful account be taken of the *situation at the national level*. EUDISED has no significance except in relation to documentation services established in the member countries of the Council of Europe. The primacy of the national point of view circumscribes both the overall structure of the system and the detailed design of the tools needed for its operation (§ 511).

iii. That, to ensure that this national point of view is given expression and to provide each country with a focus of co-operation between existing documentation services, *EUDISED National Committees* or equivalent bodies be set up. These would not themselves constitute national educational documentation centres ; their main tasks would be to promote and harmonise the documentation effort in the country concerned, to assist the centres involved to set their aims in a spirit of co-operation in such a way as to avoid any overlapping, and to deploy available resources in a joint effort to disseminate information to the best possible satisfaction of all users (§ 513).

iv. That the future European network must, in the opinion of the Steering Group, be provided with a *EUDISED Co-ordinating Centre* attached to the Council of Europe, without which it can neither be firmly based nor can its operations run smoothly. The EUDISED Co-ordinating Centre should be given the structure of a permanent team, maintaining the necessary contact between competent authorities, providing incentive to the National Committees or channelling concrete proposals through them to the ministers responsible, and acting as the link between EUDISED and international organisations or information networks outside Europe. It should also have technical functions which in the first phase will be concerned with the standards to be introduced and the drawing-up of the multilingual thesaurus (§ 54).

v. That the EUDISED Co-ordinating Centre be kept regularly informed of advanced projects and educational documentation resources in the member countries, to enable it to work with a full knowledge of the facts ; the Steering Group further recommends that compilation of a *permanent inventory of documentation resources* be pursued by means of survey techniques (§ 62).

vi. That compilation of *educational research surveys* based on national inquiries be likewise pursued (§ 54).

vii. That for the *index of scientific periodicals on education* which will be a world-wide undertaking, it would be appropriate to charge EUDISED with the cataloguing and description of the periodicals published in the member countries, later to keep the European index up to date (§ 65).

viii. And having examined the problems of *recording bibliographical data* and of *compatibility of machine records*, the Steering Group recommends the general introduction by the governments of member States of the principal standards to be observed as detailed for the Group by an outside expert (R. E. Coward). In order to arrive at a genuine European accord in this area it is proposed that the Committee for Educational Documentation and Information appoint a Working Party which would particularly be responsible for examining, at the European level, the definition and application of record standards (§ 66).

ix. That the said Working Party should also examine the problems posed by the *recording of non-book educational materials*, on the basis of a study commissioned by the Group and recently received from an outside expert (J. E. Linford) (§ 67).

x. That inspiration be drawn from the conclusions reached by G. K. Thompson in the study commissioned from him by the Steering Group on matters of *document analysis* and the possibility of getting the various techniques practised to converge into a single system (§ 68).

xi. Finally that priority be given to the *preparation of a multilingual EUDISED thesaurus* in the programme to be put in hand. The Steering Group has considered and endorses the proposals made in this respect in a study submitted by its rapporteur, and recommends their earliest implementation and that the necessary resources be provided. Methods of implementation should be decided upon by a Working Party No. II, which it proposes that the Committee for Educational Documentation and Information appoint (§ 69).

xii. The Steering Group believes the foregoing Recommendations amount to the establishment of EUDISED as a joint system for educational documentation and information ; the most suitable procedure must, however, be adopted by the Council of Europe to ensure its establishment. Having considered various alternatives, the Steering Group recommends that the *"partial agreement"* arrangement be adopted (§ 74).

1. Introduction : EUDISED and the general situation of educational information

11. THE INFORMATION CRISIS

At a time when, according to Pierre Auger (1), the number of living scientists and research workers amounts to 90 % of all those that have existed throughout history, and when the publications describing their research and discoveries are becoming more and more numerous, the importance of information interchange for the advancement of science and technology cannot be over emphasised. As the scientific community gains strength in an increasing number of countries and the traditional barriers between disciplines gradually break down, the need for interchange becomes more and more evident ; it is a need which all branches of science, whether pure or applied, are experiencing in the same way. Research workers and those responsible for science policy are equally concerned to see that their efforts and resources are rationally spent.

However, it is not enough to know that the interchange of scientific information is important in order to understand exactly how it works and how it can be carried out effectively. Too little research has been done in recent years into the demand for information and the way in which research workers set about obtaining documentation (2), and the few studies produced do not give a very precise idea of the most suitable channels of communication : meetings, conferences, scientific journals, the "invisible college", publications specialising in documentation analysis. There may well be doubt as to the relative influence of these various media and their decisive role in bringing about progress in the exchange of information. It is also permissible to wonder how much faith should still be placed in traditional documentation systems and whether these should not be replaced as a matter of urgency by more flexible methods designed to derive the greatest possible benefit from modern computer techniques.

Faced with the double difficulty of assessing demand accurately and of selecting the systems best able to meet it, the general tendency is to emphasise the quantitative aspect of the matter. For instance, the term "documentation explosion" is used to describe the ever-increasing volume of publications or the swelling flood of data to be transmitted ; to cope with this, there is talk of creating further documentation centres or libraries, of increasing still further the already countless bibliographies, of engaging more staff, and spending more money.

And yet the problem that arises out of what has been called the "crisis" in information is surely less quantitative than it appears at first sight. As the *Study Report on the feasibility of a World Science Information System*, recently published by UNESCO, shows very clearly, and as the INFROSS report cited in footnote [2] confirms, it is primarily its qualitative aspects that deserve consideration. The study makes it particularly clear that the development of interdisciplinary research creates a demand for the "packaging" of scientific information in new forms, that research areas today cut across each other to such an extent that any information system designed for a single discipline becomes obsolete overnight and that it is essential gradually to transform the conventional information systems into networks that are both more flexible and better suited to the demands of the present age (3).

12. THE CHALLENGE TO EDUCATION

One particular field in which these general considerations are confirmed is that of education. Of all documentation in the humanities, educational documentation is of longest standing ; it is also one of the fields requiring the most thorough overhaul and the greatest degree of extra flexibility if it is to come anywhere near to meeting demand in the coming years.

There are many reasons for this, but three main ones can be singled out. The first, and certainly the most decisive, lies in the constant doubt to which education itself is subject ; all media for the transmission of culture, and, especially, the more archaic aspects of educational systems, have become the target of constant criticism, so much so

(1) AUGER, Pierre. *Tendances actuelles de la recherche scientifique*. Paris, UNESCO, 1961, p. 15.

(2) Where the humanities are concerned, see the references given by J. M. BRITTAIN in his study entitled *Information and its users*, Newcastle upon Tyne, Oriel Press, 1970, pp. 163-197. See also *Information requirements of researchers in the social sciences*, a report by M. B. LINE, J. M. BRITTAIN and F. A. CRANMER, published by Bath University Library, 1971.

(3) UNISIST. *Synopsis of the feasibility study on a World Science Information System*, Paris, UNESCO, 1971, pp. 24-25.

that the content of the very concepts in which educational problems are expressed is changing all the time. The second reason concerns the manner in which the field of education is defined. Instead of following the pattern set by the established disciplines, the demarcation of this field is dictated by what are primarily practical requirements ; the research which it inspires takes its instruments where it finds them, borrowing some from psychology, others from sociology, demography, biology or mathematical statistics, seeking information at every crossroads of knowledge. The third and final reason is that users of information services no longer belong to a single section of the population ; they fall into fairly heterogeneous categories according to whether they are scientific research workers, planners, educational administrators, teachers, students or parents ; each member of each of these categories expects the system to supply him with a specific type of documentation, and some even require information made to measure.

13. USE OF COMPUTER TECHNIQUES

Now that the main grounds for a thorough overhaul of the conventional system of educational documentation have been examined, it will soon become clear that the changes necessary for meeting present-day needs cannot be brought about except by the use of computer techniques.

131. Normally, the basis for any exchange of information lies in the concepts which define an area of study ; if the meaning of these concepts is altered whenever there is a change in the problems of the field with which they are associated, the same possibility of change must, it seems, be embodied in the information system itself ; and it is only by storing the information in a computer that it will be possible to re-analyse the documents regularly, so as to ensure permanent co-ordination of terminology and guarantee effective retrieval.

132. Because of its interdisciplinary nature, educational research is not amenable to classification by systems constructed with disciplines in view, or whose structures are based on their subdivision ; like most studies conducted in the social and human sciences, educational research needs to be subjected to an analytical process by means of descriptors whose relationships are set out in a thesaurus ; this process combines flexibility with accuracy, but the use of a computer is necessary if it is to be fully effective.

133. Because of the wide variety of users, different types of information must be obtained, and it must be possible to identify and retrieve, sometimes in a single operation, a particular published study, current research project, audio-visual aid or programmed text, and even a particular research worker or institution ; it is also essential to arrange a link with data banks able to provide numerical statistics on such matters as school attendance, teaching staff or available premises ; here again, computer techniques are indicated.

The characteristics peculiar to the field of education do not simply require a thorough overhaul of the machinery for the interchange of information ; they demand an extensive use of computer techniques in the processing of educational documentation.

14. THE EUROPEAN DOCUMENTATION AND INFORMATION SYSTEM FOR EDUCATION

The EUDISED project formulated by the Council of Europe should be seen in this context : the introduction of a European Documentation and Information System for Education, the implications of which will be discussed in this report, cannot be understood without reference to an entirely new information strategy in the field of education.

This fact is brought home all the more forcibly if the *multi-national* aspect of the project is emphasised. While the need to adopt new procedures for processing and disseminating educational information can largely be explained, in individual countries, by the general crisis in the information services and the challenge to which accepted educational principles are subject, it becomes still more evident when seen from the European angle. The mere fact that interchange is being considered within a regional, and not only a national context, has the effect of multiplying the problem from this standpoint : we cannot go on much longer having documents processed "by hand" or relying on isolated services that make little attempt to co-ordinate their work ; nor will the old touch-and-go methods suffice for passing information from one country to another, and it will, in any case, be necessary to take account of the conditions under which that information is received. Computer techniques are today coming to be relied upon more and more for extensive, speedy interchanges of information at international level.

For this reason, EUDISED is based essentially on what are known as *advanced projects*. Its function, however, is not so much to initiate such projects as to co-ordinate them. Because it is so urgent to review the traditional procedures of educational documentation, there is a great risk of incompa-

tible systems springing up in various parts of Europe.

Experience in other fields shows that this danger is a real one, and it would be wrong to try to conceal it for the present on the grounds that primacy is still granted in Germany, France, Sweden, or the United Kingdom to information of a purely national character. No single country can any longer afford to conceive of an information system for domestic use only. In the field of education in particular, no development of any importance can fail to have repercussions abroad ; and it is not necessary to pursue the comparative analysis of systems, programmes or teaching media very far, in order to see the influences at work between one country and another or to gain a clear idea of the extent to which innovations and research topics can spread. The oldest documentation systems in fact took this into account by giving equal prominence to information from national sources and that of foreign origin, although it is true that their resources were scattered over too wide an area to master either properly. Now that a scheme for an international division of labour in document analysis is gradually taking shape, with each country giving precedence to home-produced documents, it is no longer possible for any country to regard the interchange of information as a purely national matter.

The problem of the compatibility of systems is therefore acute. At a time when the crisis in the information services is calling for the expenditure of sums which would be considerable even if they were to cover only the costs of conventional documentation, all efforts must be concentrated on solving it. For if a number of widely differing systems and techniques for data analysis, storage and retrieval were to be introduced throughout Europe, the obstacles to co-operation in the field of education would without doubt prove fatal. It is no easy matter to back down after large sums have been invested in software and equipment, and experience of the conventional systems also shows that in documentation habits are quickly acquired and slow to die. Prevention is certainly better than cure ; and it was with prophylaxis in mind that the Council of Europe decided to set up EUDISED. What exactly is it ?

The European Documentation and Information System for Education is not a device ancillary to existing ones ; nor is it intended to fasten itself like a parasite on to the educational information services already set up in the member States of the Council of Europe, or to crown them like some kind of superstructure. Being built on the model of the most advanced documentation projects, in particular those involving the use of computers, it can be defined as *the point at which their compatibility is achieved*. At regional level, before entering the wider international context, it offers the possibility of interchanging information between countries. It is nevertheless a flexible system, to be built up gradually from projects developed at national level and from a number of studies accompanied by recommendations, in which the principles of proper co-ordination are examined and the techniques for achieving them prescribed.

In its present form, EUDISED is no longer just an idea. Since September 1968, when a meeting was held in Strasbourg of the experts of those member States which used, or were planning to use, electronic techniques for the processing of educational information, it has become a reality.

This reality must now be recalled. The report will then go on to examine the latest developments in the national or international systems to which EUDISED must conform, to describe the general organisation of the network, to define the standards that must govern the transfer of information between one country and another, and to say what may reasonably be expected of this joint undertaking in the near future.

2. Progress report of the EUDISED Steering Group October 1970 - September 1971

The decision to create a Steering Group for EUDISED was taken by the Council for Cultural Co-operation of the Council of Europe at its meeting in Strasbourg in September 1970. It was in response to a proposal that the Committee for Educational Documentation and Information had made in June of the same year, after examining the first EUDISED Report prepared by a Working Party towards the end of 1969.

Without repeating the contents of the first Report, published by the Council of Europe (1), it is necessary to recall its conclusions so as to give a clear picture of the Steering Group's action since its creation.

21. CONCLUSIONS OF THE FIRST EUDISED REPORT

The conclusions are set out on pages 31 and 32 of the printed report and comprise the following twelve points :

"(i) Educational documentation and information are generally considered a vital prerequisite for educational development and innovation in Europe. Present arrangements, however, do not adequately meet the needs of policy makers, researchers, administrators, teachers and others concerned.

"(ii) Technological developments in automatic documentation have for the first time made it possible for a 'once-and-for-all' intellectual effort in the analysis of documents made at one place to be used by a theoretically unlimited number of other centres and users, provided that these centres co-operate at regional level to develop common targets for analysis, common standards, and common targets for production and services. In this way, inefficient handling of data at innumerable places and centres, duplication of work and consequent waste of money can be avoided.

"(iii) The Working Party proposes the creation of a computer-based European Documentation and Information System for Education (EUDISED) in the geographical region covered by the member States of the Council for Cultural Co-operation. This should proceed in three phases. The Working Party therefore submits proposals for a short-term plan up to 1975, for a medium-term plan after 1975, and perspectives for long-term development.

"(iv) EUDISED should be considered as a regional system within the framework of the emerging world-wide educational documentation and information system under the sponsorship of UNESCO.

"(v) EUDISED should not be a centralised system but decentralised, as the available data on international systems already in operation or being planned prove the advantages of decentralisation.

"(vi) The efficiency of any decentralised system primarily depends on the quality and appropriateness of rules commonly adopted and observed, the distribution of functions among the co-ordinating centre(s) and the participating centres, and the efficiency of each participating centre.

"(vii) Particularly during the initial phase of the development of EUDISED, member States should concentrate on the modernisation, expansion and reinforcement of their own national centres and systems, so that they can develop into efficient partners, co-operating both nationally and internationally.

"(viii) Specialised centres will be on the increase, at the national and international level. The Working Party conceives of chains of such centres specialised in a particular subject field of education and co-operating regionally within EUDISED.

"(ix) The Working Party suggests the co-ordination of national documentation and information systems and/or specialised documentation centres in each particular language area, such as English, French, German, Scandinavian, etc.

"(x) EUDISED should be developed as a network based on national documentation and information, on language area co-ordination, and on co-operating chains of specialised documentation centres in the field of education.

"(xi) Considering the great number of different languages spoken in the member States of the Council of Europe and aware that machine translation of natural languages is not yet a practical possibility, the Working Party suggests that for technical and organisational reasons English should be the carrier language of computer-stored information within EUDISED.

"(xii) The Working Party proposes the establishment of a Steering Group for EUDISED, composed

(4) COUNCIL OF EUROPE. *EUDISED. Volume I, Report of the Working Party*. Strasbourg, 1969, 51 p. (Rapporteur : Dr. Kurt Spangenberg).

of experts from national centres and international organisations, to guide all activities concerned with its implementation in phases 1 to 3 and its co-operation in a world-wide system. The Steering Group should report to member Governments at regular intervals."

22. MANDATE OF THE STEERING GROUP

At the time of its creation, the Steering Group was given the following mandate :

"— to gather and keep in evidence *information* on national and international projects for the establishment and modernisation of the educational documentation and information systems, in so far as this information relates to international co-operation ;

— to make *technical proposals* relating to the co-ordination of national and international activities and advise member Governments in this field if so requested ;

— to propose further *studies and surveys* to be commissioned and *experiments* to be carried out with a view to developing educational documentation and information in Europe ;

— to *report* to the Study Group and through it to the CCC and member Governments at regular intervals." (5)

23. MEMBERSHIP OF THE STEERING GROUP

The EUDISED Steering Group consists of *representatives of those member States* in which advanced educational documentation projects are in the course of completion : France, Federal Republic of Germany, Italy, Spain, Sweden and the United Kingdom. The following experts were appointed by their governments :

FRANCE :

Mr. Joseph MAJAULT
Institut National de Recherche et de Documentation Pédagogiques, Paris
(represented at several meetings by Mr. Claude BONNEFOI, INRDP, Paris).

FEDERAL REPUBLIC OF GERMANY :

Dr Kurt SPANGENBERG
Pädagogisches Zentrum, Berlin.

ITALY :

Mr. Alberto SILVESTRI
(in place of Mr. ROMANO)
Istituto di Fisica, Università di Bari, Bari.

SPAIN :

Miss Vicenta CORTES ALONSO
Ministry of Education and Science, Madrid.
Mr. Fernando PIERA
Ministry of Education and Science, Madrid.

SWEDEN :

Mr. Bertil GRAN
Teacher Training College, Malmö.

UNITED KINGDOM :

Mr. Alan N. MACGREGOR
Office for Scientific and Technical Information, London
(represented at one meeting by Miss M. O'HARE).

Other members of the Steering Group :

Mr. Bernhard von MUTIUS,
Head of the Division for Educational Documentation and Research of the Council of Europe, representing the Secretariat,

Mr. Jean VIET,
Director of the Service d'Echange d'Informations Scientifiques,
Maison des Sciences de l'Homme, Paris,
appointed as consultant and rapporteur on the suggestion of the French Government.

In addition, the proceedings of the Steering Group have been regularly attended by a number of *national observers :* Mr. Gerhard SILVESTRI, Bundesministerium für Unterricht, Vienna (for Austria) ; Mr. Willem de REGT, Ministry of Education and Sciences, The Hague (for the Netherlands) ; Mr. Leslie GILBERT, National Council for Educational Technology, London (for the United Kingdom). Numerous experts accompanied these observers on various occasions, at the meetings held in Paris, London, Geneva and Constance ; their names are mentioned in the reports of those meetings.

Lastly, several *international organisations* have been represented at meetings of the Steering Group by observers :

INTERNATIONAL BUREAU OF EDUCATION :

Mr. L. R. FERNIG
Mr. R. BROADHURST

INTERNATIONAL LABOUR OFFICE :

Mr. G. K. THOMPSON

COMMISSION OF THE EUROPEAN COMMUNITIES :

Mr. J. M. GIBB

(5) COUNCIL OF EUROPE. *Summary report to the Council for Cultural Co-operation by the Study Group for Educational Documentation and Information.* Strasbourg, 3 July 1970, DECS/Doc (70) 19, p. 4.

OECD :

Mr. A. KIRCHBERGER
Mr. P. MARTIN
Mrs. S. MOWAT

UNESCO :

Mr. L. GOLDSTONE
Mr. S. NANTIER
Mr. C. PENNA.

24. NATURE OF THE STEERING GROUP

As its composition suggests, the EUDISED Steering Group is essentially a *group of experts.*

Its members are not qualified to take policy decisions ; their function is rather to indicate the best technical solutions to adopt, each in the area falling within his province, although they may, if there is doubt as to the best solution or if differences between national circumstances require it, submit their solutions in the form of alternatives, and leave the final decision to the governments.

Having in practice no power to impose its views, the Steering Group might well have tended to play a purely theoretical part, had it not been continually confronted with the realities of educational documentation in member States, and had it not also directly experienced the problem of the interchange of information as it arises for the international organisations. In this respect, it was essential for the appointed experts to make frequent contact with the observers as well as with the most active practitioners of documentation in the field of education. In fact, the action of the Steering Group between October 1970 and June 1971 involved about one hundred specialists belonging to national or international institutions. Relations with these specialists were generally established during the meetings of the Steering Group or during journeys made by the rapporteur.

25. MEETINGS OF THE STEERING GROUP

Meetings of the Steering Group have been held in Paris, London, Geneva and Constance, in that order. The date and place of each meeting are given below, together with the names of the participating institutions and the reference numbers of the working papers and reports :

— 20-22 October 1970, PARIS (Institut National de Recherche et de Documentation Pédagogiques). *International organisations :* IBE, EEC, OECD, UNESCO ; *national organisations :* CNRS, CRDP (Toulouse), INFA, INRDP, Maison des Sciences de l'Homme, Ministère de l'Education nationale. *Documents :* DECS Doc (70) 20, 21, 22, 26, 27.

— 16-17 December 1970, LONDON (Office for Scientific and Technical Information). *International organisations :* IBE, EEC ; *national organisations :* Bath University, British National Bibliography, INSPEC, Institute of Education Library (University of London), Library of Glasgow University, National Council for Educational Technology, The Open University, OSTI. *Documents :* DECS Doc (70) 29, 30, 30 Revised, 31 and DECS/Doc (71) 1.

— 22-23 February 1971, GENEVA (International Bureau of Education). *International organisations :* IBE, ILO, OECD, UNESCO. *Documents :* DECS/Doc (71) 2, 3, 4, 6.

— 28-29 April 1971, CONSTANCE. *International organisations :* IBE, ILO ; *national organisations :* Bundesministerium für Bildung und Wissenschaft, Deutsches Institut für Fernstudien, Deutsches Jugendinstitut, Informationszentrum für Fremdsprachenforschung, Institut für Dokumentationswesen, Internationales Zentralinstitut für das Jugend- und Bildungsfernsehen, Pädagogisches Zentrum. *Documents :* DECS/Doc (71) 7, 8, 9.

At the meetings in Paris, London and Constance, the members of the Steering Group were given up-to-date information on the national documentation projects for education in France, the United Kingdom and the Federal Republic of Germany. In reviewing the progress made since the publication in 1969 of Volume II of the first EUDISED Report, the members were able to discover what features the national projects had in common and how they could best be made compatible. At each of these EUDISED meetings, the need for co-ordination among documentation services was given prominence. It was shown that this co-ordination was essential not only to enable information exchanges to work properly at national level but also to make them feasible at European level.

The main purpose of the Geneva meeting was to keep the members of the Steering Group informed of the advanced documentation projects developed by international organisations such as the International Bureau of Education, the International Labour Office, OECD and UNESCO ; the reason being that some kind of link must be established with these projects, and the possibility provided for EUDISED to take over some of their techniques if necessary.

A fifth meeting of the Steering Group was held in Paris on 11, 12 and 13 October 1971 to discuss and finalise this report.

26. JOURNEYS MADE BY THE RAPPORTEUR

Useful additions were made to the information acquired in Paris, London, Geneva and Constance during journeys made by the rapporteur between the meetings of the Steering Group.

After an initial visit to the Secretariat of the Council of Europe in Strasbourg in July 1970, the rapporteur visited the following places :

— London (16-18 November 1970) : Office for Scientific and Technical Information,

— Geneva (14 January 1971) : International Bureau of Education,

— Luxembourg (18 January 1971) : Commission of the European Communities,

— Stockholm (30 March - 1 April 1971) : Ministry of Education and Cultural Affairs,

— Berlin (21-22 April 1971) : Pädagogisches Zentrum,

— Geneva (14-15 June 1971) : International Bureau of Education.

In addition he was in constant touch, in Paris, with the French educational research and documentation organisations, and helped in particular in setting up the EUDISED National Committee for France.

These visits, and the contacts made locally by the rapporteur, enabled him to prepare the meetings of the Steering Group with the institutions most directly concerned with the advanced projects ; they also provided him with knowledge of the programmes of such institutions in countries where no meetings were planned. In Stockholm, for example, he visited the following institutions : SINFDOK (State Council for Scientific Information and Documentation), the Ministry of Education, the College of Higher Technical Studies, the National Library, the Educational Research and Development Division of the Board of Education, the Library of Psychology and Education, the Board of Education, and the Educational Research and Development Division of the Office of the Chancellor of the Universities. Also, at a meeting in the International Bureau of Education in Geneva, in June 1971, the rapporteur made contact with the persons in charge of UNESCO's Regional Offices for Education (in Africa, Asia and Latin America), the Director of the Department of Comparative Education of the USSR Academy of Pedagogical Sciences, the Director of the UAR Educational Documentation Centre and Mr. Lee G. BURCHINAL of the US Office of Education, representing the ERIC system.

27. COMMISSIONED STUDIES

At the eighteenth session of the Council for Cultural Co-operation of the Council of Europe, the Secretariat was authorised to commission eight studies, on the recommendation of the EUDISED Steering Group, in connection with the implementation of the project.

The subjects to be covered were agreed at the London meeting in December 1970, after a number of proposals made by the rapporteur had been discussed ; and gave rise to the following papers :

(i) "The educational sciences in their relations with the social and human sciences. Determination of the field they cover, on the basis of existing documentary instruments." (Study prepared by the CNRS, Paris, under the responsibility of Mrs. L. CADOUX).

(ii) "The organisation of a decentralised network for the exchange of educational information at the European level." (Dr. Kurt SPANGENBERG, Pädagogisches Zentrum, Berlin).

(iii) "User studies in education and the feasibility of an international survey of information needs in education." (J. M. BRITTAIN, Bath University).

(iv) "Abstracting services in education and the social sciences : a study of document analysis techniques useful for the development of a computer-based decentralized information network." (George K. THOMPSON, International Labour Office, Geneva).

(v) "Problems in compiling the multilingual EUDISED Thesaurus." (Jean VIET, Maison des Sciences de l'Homme, Paris).

(vi) "Preparation of a range of standards for educational documentation." (R. E. COWARD, British National Bibliography, London).

(vii) "Documentation and information diffusion on educational research, development and innovation." (Esse LÖVGREN and Sixten MARKLUND, Kungl. Skolöverstyrelsen, Stockholm).

(viii) "Problems of standardisation in the recording of non-book material with special reference to education media." (J. E. LINFORD, British National Bibliography, London).

These eight studies were prepared to answer to some of the major concerns of the Steering Group, whose task is to inform member States of the ways in which documentation systems can be rendered compatible and interchange of educational information ensured ; they provide the most up-to-date

information on technical points, additional to that obtained by the Group during its meetings or by the rapporteur during his visits.

28. INVENTORY OF ADVANCED PROJECTS

In order to determine the operating conditions of EUDISED with full knowledge of the facts, and to ensure conformity with the most up-to-date documentation services in each country, it was also necessary to make an inventory of those projects in Western Europe which the EUDISED system should take into consideration. For this reason the Steering Group decided at its first meeting in Paris, to circulate a questionnaire to all member States.

So far Finland, France, the Federal Republic of Germany, Spain, Sweden and the United Kingdom have replied to this inquiry. Thus sufficient indications are available for a sample assessment to be made of the situation of educational documentation in member States since the publication of the first EUDISED report.

This situation will now be described ; but it should be borne in mind that the situation is not static, information collected in 1971 cannot be considered a permanent data-base.

3. National educational documentation projects

31. INFORMATION RECEIVED

The questionnaire sent out to obtain information on advanced educational documentation projects in each member State contains two analytical tables.

In the first table, projects are identified in terms of sectors and principal content of the educational sciences and in terms of various types of activity connected with those sciences. The vertical axis consists of a list of about 50 titles set out in seven major categories :

100. Education (general)

200. Institutions and fields

300. Technology, teaching methods

400. Curricula and syllabuses

500. Subjects taught

600. The individual and the community

700. Educational planning and policy.

The horizontal axis gives the following headings, A to G : research, development and innovation, field experiments, planning systems, statistics, teaching media, legislation and decrees. The code number of a given project is found where the two axes intersect ; for example, 204/A = research in primary education ; 306 B = innovation in programmed instruction, etc.

The second table defines the particular type of documentation project and identifies the technical features making it an advanced project. The vertical axis consists of a list of the principal documentation instruments. These are :

I. Data bank

II. Annotated bibliography
— articles only
— articles plus books, etc.

III. Enumerative bibliography
— articles only
— articles plus books, etc.

IV. Research findings, state of work, summary of documentation

V. Catalogue of works of reference

VI. Catalogue of periodicals

VII. Inventory of teaching media

VIII. Inventory of research in progress

IX. Index of teachers

X. Index of educational institutions

XI. Index of documentation centres

XII. Index of research units

XIII. Index of researchers

XIV. Index of tests and measurements.

The horizontal axis specifies the characteristics relating to the field covered (national or international), the format (MARC II, etc.), the classification (UDC, etc.), the method of analysis, the documentation language employed, the index, etc.

An advanced documentation project may be identified by the code number obtained from the two tables. For example, E 205/I signifies "data bank of statistics on secondary education", and A/510 II signifies "annotated bibliography relating to research in the teaching of foreign languages." It is easy to refer the projects' code numbers to the national institutions conducting them, and to see where they stand in relation to each other in the development of documentation services.

Certain conclusions can be drawn from the information thus obtained, some of which relate to the projects themselves and their main features, while others concern the situation of advanced educational documentation in the countries to which the questionnaire was sent.

32. FEATURES OF THE NATIONAL PROJECTS

321. If we start by studying the first table, we find that most advanced educational documentation projects cover a wide field. They are concerned less with primary education or technical education than with institutions and fields as a whole, and less with teaching methods, curricula and syllabuses than with education in the general sense. Nearly all of the 50 or so titles in the vertical axis of the first table have proved unnecessary. There is no actual automatic documentation project specifically designed to cover programmed instruction, mathematics teaching or educational economics ; if such subjects are dealt with, it is in a wider framework ; it is very unusual to find computer-based documentation services covering very specific fields.

In addition to the projects mentioned, reference should no doubt be made to certain very recent attempts to apply computer techniques to information on educational technology, adult education,

leisure and youth problems ; this would to some extent attenuate the conclusion to which the findings point, but that conclusion still fits the majority of the facts.

The reason is, certainly, that computer-based documentation requires a fairly considerable outlay, which is worth while only if the documentation system is of sufficient size. Information in specialist fields is usually processed in sub-systems which are more or less integrated into large entities and require the use of the same methods and the same equipment. This is not without its drawbacks, especially when information has to be supplied to meet an individual need or when subtle distinctions have to be sought ; and attention should be drawn to the fact that while this tendency certainly makes economic sense, it does little to meet the requirements of research in increasingly specialised fields.

Judging simply by the findings of the investigation, very few advanced educational documentation projects cover specific fields. There is reason to suppose that their number will increase rapidly as certain sectors (adult education, teaching of mathematics, programmed instruction) achieve the limelight and create an ever increasing demand for information, so that a place will have to be found in the interchange network for specialised documentation centres ; but from the standpoint originally adopted, namely that of the use of computer techniques in information interchange, the situation must be seen as it really is.

322. The information obtained by studying the horizontal axis of the first table shows that sector A "research" and Sector F "teaching media" are the most fully covered. The first of these two predominates especially if one adds the two closely related sectors B and C : "innovation" and "field experiments".

It could be inferred that advanced documentation projects tend at present to give priority to the requirements of two categories of user : researchers first and then teachers. Sectors D "planning systems", E "statistics" and G "legislation and decrees" seem directly to concern planners and those responsible for educational policy. Their coverage is at present meagre and, in some countries, non-existent.

This finding is interesting in so far as it shows that the introduction of modern educational documentation systems is generally left to research councils, universities, or specialist libraries. Except to compile statistics, the authorities directly responsible for educational policy appear to take little or no interest (and then only at second hand) in the processing of educational information. Would it be rash to conclude that there is at present little relation between decision-making and research in the field of education, or is this in fact so ?

323. If we now examine the second table and consider the list of documentation instruments given in the vertical axis, we find that statistical data banks are steadily being introduced in most countries ; the statistics in question are invariably national statistics on educational institutions, school attendance, teachers, etc. A majority of advanced projects, moreover, are concerned with bibliographies, whether annotated or enumerative, and it is impossible to say exactly which sort is more favoured. Inventories of teaching media and inventories of research in progress come next in descending order with equal scores. The other instruments (catalogues of periodicals or indexes of research workers, research units, documentation centres, etc.) are covered either by single specific projects or not at all.

In the present state of development, and leaving aside data banks which raise special problems, compatibility has to be achieved between information processing techniques in three main fields ; bibliographies, inventories of research, and inventories of teaching material. If a degree of harmonisation sufficient for the establishment of international information interchange can be achieved in these three directions, there is reason to hope that the same will be true in fields of lesser importance, such as the description of specialised periodicals, or identification of research units.

324. The horizontal axis of the second table shows that the field covered by the documentation project is *national* in character except where bibliographies and catalogues of periodicals are concerned. Although the cataloguing of specialised periodicals in education can apparently be undertaken without difficulty on an international scale by a national institution with the necessary contacts in the various countries, working in close co-operation with the competent international organisations, provision of bibliographical services on a international scale is clearly becoming less acceptable at a time when an international division of labour is steadily gaining ground in the field of document analysis, and when an attempt is being made, with EUDISED, to set up an information interchange system that obviates the need for each country to process foreign material. It will be seen that in the United Kingdom and the Federal Republic of Germany, bibliographies are strictly national. Even if it is agreed that, to satisfy user demand with systems in their present state, openings must be made in the national bibliography for literature

produced abroad, it is undeniable that the principles governing the introduction of EUDISED or similar networks will demand the adoption of a different strategy sooner or later.

325. Finally, with regard to *techniques* for processing information in the framework of advanced projects, it is enough at this stage to note the general consensus in favour of the MARC II format or one compatible with it, the continued use of classification systems (UDC, Dewey, Library of Congress or *ad hoc* systems), the use of various lists of descriptors in the absence of a proper thesaurus (sometimes under development), the establishment of subject indexes based on descriptors, and of author indexes, and, lastly, the fact that information is disseminated through publications which retain a conventional appearance even if they are produced by computer ; we will, in fact, be returning to these technical aspects when considering the main conditions for the compatibility of national systems (see chapter 6 of this report).

33. SITUATION OF ADVANCED EDUCATIONAL DOCUMENTATION IN THE COUNTRIES COVERED BY THE INVESTIGATION

Three conclusions may be drawn from the information obtained :

331. First, it is quite certain that, in its most innovative form, educational documentation is a matter for a small number of institutions in each of the countries considered. There are two for Spain, two for Finland, five for France, five for the United Kingdom, seven for Sweden, etc. It should not therefore be too difficult to co-ordinate the projects at national level alone, although it appears in some cases that several institutions pursue similar types of activity ; for instance, in France, there are three, if not four, inventories of educational research in progress. The complexity of the national situation would, if maintained, make it extremely difficult to co-ordinate activities at regional or international level, and it is to be hoped that machinery for discussion will be set up in each country in the framework of a body such as a EUDISED National Committee.

332. In each country, the situation is evolving rapidly. There is already quite a remarkable difference between the information obtained from the replies to the questionnaires and that given in the national reports published by the Council of Europe in 1969 ([6]). A particularly striking change is in the trend towards specialisation : programmes which previously were of fairly general value for the social and human sciences, are coming to be applied specifically in the field of education. Furthermore, a number of projects which were at the experimental stage are now becoming operational. Lastly, evidence is beginning to show of co-operation between services, and some are even recognising the need to meet the objectives defined by the international organisations specialising in their field. The change appears still more marked if account is taken of certain developments that have taken place since the investigation was conducted : in France, for example, the documentation centre of the Institut National de Formation des Adultes has just published two annotated bibliographical bulletins and the first elements of a specialised thesaurus ; it is now planning to apply strictly any rules for document analysis that may be laid down by the European Bureau of Adult Education in compliance with the recommendations of EUDISED, and to make its specific vocabulary conform to that of other countries and international organisations (for example, the International Labour Office) so as to ensure widespread dissemination of its information. Other examples could be mentioned, and all would show how changeable the situation is in each country.

333. Nevertheless, if developments are rapid, there is reason to fear that incompatibility between the systems will increase. The national reports published in 1969 revealed certain disparities which are today confirmed by the findings of the investigation. While developments seem to show a general trend towards the use of the MARC II format, agreement on the methods to adopt for document analysis, the terminology to employ, the type of product to put out and the manner of dissemination, is still a long way off. In certain cases, the divergencies are not merely hypothetical ones that might, one day, obstruct the international interchange of information, but are real disparities which will no doubt become still more marked when the systems begin to operate.

Before considering how EUDISED can avert this danger and both find a place among national projects and act as their point of convergence, it is necessary to mention the international context in which it is itself situated. It would indeed be somewhat illogical to present the member States with the case for international co-operation and then to take refuge in a regional system of a kind that would make short work of such co-operation on a wider scale. Furthermore, experience of educational documentation in international organisations or in countries outside Europe may prove decisive in the choice of the most suitable procedures for ensuring system compatibility.

(6) Council of Europe. *EUDISED. Volume II. National Reports*, Strasbourg, 1969, 124 p.

4. The international context

The first EUDISED report gives an account of numerous computer-based documentation projects, including MEDLARS, INSPEC, INIS, etc., most of which have been developed in fields other than the educational sciences. This review was necessary in so far as the Working Party set up in 1968 was required to examine the feasibility of EUDISED in a wide context and to draw conclusions from experiments conducted in a variety of sectors mainly connected with the exact sciences and technology. Now that the European Documentation and Information System for Education is passing from the stage of conception to that of implementation, it is necessary, if its specific nature is to be ensured, to concentrate on those advanced documentation services which are directly concerned with education, either exclusively or as part of a wider field.

These services will now be described, so that it will be possible at a later stage in the report to determine how EUDISED stands in relation to them. It is, in fact, already safe to assume that they will be more than just good neighbours. Because they inhabit the same area, they will naturally have occasion to practice give-and-take and to act in unison ; information circulates, habits of language are formed, and if this sometimes gives rise to restrictions, these are immediately offset by the advantages of a wider market and the certainty of more efficient dissemination.

The services processing educational information, and which EUDISED must therefore take into account, are of three kinds. If we leave aside the national projects developed in the member States for which EUDISED is intended to provide a link and act as the point at which they achieve compatibility, most such documentation systems operate either at European *regional* level (the same as that defined by the Council of Europe) or at *world-wide* level (that prescribed by various international governmental organisations), or at *national* level (but in a country outside Europe). Without attempting to describe them all in detail, we shall note their existence at each of these three levels.

41. EXISTING SYSTEMS : EUROPEAN REGIONAL LEVEL

The EBAE (European Bureau of Adult Education/ Bureau européen de l'éducation populaire/Europäisches Büro für Erwachsenenbildung), with the abstracting service it has set up in the field of adult education, is a good example of a documentation service that can be integrated with EUDISED. It is true that computer techniques are not yet used, and that production and distribution of abstracts are still carried on by traditional documentation methods ; nevertheless it does cover a specific field which may well become one of the subsystems of EUDISED, especially as the countries interested in making it operate are members of the Council of Europe.

The EBAE, a non-governmental institution operating on the lines laid down by the Committee for Out-of-School Education of the Council of Europe, set out its objectives at meetings held in Frankfurt and Liverpool, and now groups eleven specialised national abstracting centres, such as the National Institute of Adult Education in the United Kingdom an the Netherlands Centre for Adult Education. These centres provide abstracts in English, French or German and distribute them to members of the network on index cards which may be filed under various key-words.

At a meeting in Paris on 28 and 29 June 1971, the relations between the EBAE and EUDISED were examined and it was thought advisable for the network specialising in adult education to become and integral part of EUDISED. The field to which it applies belongs, in fact, to the educational sciences and was therefore specified in the questionnaires sent out to member States by the Steering Group. The material produced by the EBAE may, if the organisation accepts the standards which are to govern the use of the computer techniques in the EUDISED documentation operations, become part of the system's input; EUDISED, on the other hand, will have to take into consideration the various categories of EBAE users and provide them, at the output, with the information required to meet their specific needs.

42. EXISTING SYSTEMS : WORLD-WIDE LEVEL

At a meeting in Geneva on 22 and 23 February 1971, the Steering Group was given detailed information on documentation services, mainly international, and took a decision with regard to each.

421. *The UNESCO/IBE Programme*

The first of these services is that conducted by UNESCO/IBE. A description of it was given to the Steering Group in a working document drafted

for the purpose : *The programme of the IBE in relation to the interests of EUDISED* (DECS/Doc (71) 4, Appendix 3 a). In addition, the Rapporteur was given information about recent developments in documentation at the IBE when he attended the meetings of the Steering Group on Educational Documentation and Abstracting Services on 14 and 15 June 1971 (7).

From information received, it appears that the IBE is to pursue its activities in four directions in 1971 and 1972 :

a) *Setting up of a co-operative network of centres for educational documentation, research and information.* This network combines the national bodies best able to bring to light the various characteristics of the educational systems, but it gives special prominence to the regional centres, on the grounds that "groups of adjacent countries ... require a more intensive exchange of educational experience than the international system can provide". Early in 1971 the network consisted of the Documentation Centre for Education in Europe (Council of Europe), the US Center for Educational Communication (responsible for ERIC), UNESCO's Regional Offices for Education in Latin America, Africa and Asia, the UAR Documentation Centre and the USSR Academy of Pedagogical Sciences.

b) *Development of the IBE Centre :* extension of the Centre's collection, up-dating the indexing system, reproduction on microfiches and use of ERIC magnetic tapes.

c) *Consolidation of the Co-operative Educational Abstracting Service (CEAS).*

d) *Establishment of an inquirers service* for use by official agencies (Ministries of Education, National and Regional Documentation Centres).

This short-term programme is part of a longer-term programme (1971-1976), which gives priority to the documentation and information functions which the IBE must assume. The activities of the IBE in the coming six years will therefore be mainly directed towards the creation and setting up of the information services which UNESCO requires for its education programme.

422. *International Documentation Network on economic and social development*

The Rapporteur submitted a detailed description of this network to the Steering Group in the working document for the Geneva meeting, under the title of *Exchange of Information and Development : An International Documentation Network* (DECS Doc (71) 4, Appendix 1).

It is not necessary to describe this network again in detail ; it is sufficient to recall that it is a joint undertaking on the part of : 1, international organisations such as the ILO (Geneva), the FAO (Rome), the United Nations Secretariat (New York), UNIDO (Vienna), UNESCO (Paris) and the OECD (Paris), 2, specifically regional organisations such as the four United Nations Economic Commissions, the Commission of the European Communities and the Organisation of American States, and 3, a number of national institutions : Deutsche Stiftung für Entwicklungsländer (Bonn), Agency for International Development (Washington), etc.

All of these organisations have economic and social development as their aim and consider the dissemination of information to be one of the most important factors in this development. A number of them have set up computer-based systems for processing their documents, and these are managed and co-ordinated by the international network.

Just how far the systems are harmonised is shown mainly by the use that is made of a single documentation language, known as the *Aligned List of Descriptors*, since its publication by the OECD in 1969. At present, this list is in the process of conversion into a genuine macro-thesaurus of economic and social development ; it will be published in five languages (English, French, German, Spanish, Portuguese), and from 1972 onwards it will combine, in a single stockpile of terms jointly accepted and arranged, the lists of the more specialised descriptors used by the organisations belonging to the international network.

The OECD Development Centre at present provides secretarial services for this network.

423. *The ILO documentation system*

Although the Central Library and Documentation Branch of the ILO is part of the network described above, it deserves a special mention because of the decisive role it plays in the organisation of documentation on an international scale and for the place it assigns in its own system to documents on education (in particular vocational training). The members of the Steering Group had an opportunity to judge the efficiency of the method applied at the ILO at a demonstration given in Geneva during their meeting.

The ILO system has been described in a docu-

(7) See the "summary report" of these meetings in a document drafted by the IBE Secretariat with the reference BIE/71/Doc/SC/2, Geneva, 21 June 1971.

ment entitled *ISIS (Integrated Scientific Information System): A General Description of an Approach to Computerised Bibliographical Control*, Geneva, International Labour Office, 1971, 116 p. This document provides useful information in addition to that given on ISIS in the first EUDISED report.

In addition, the study prepared for EUDISED by George K. Thompson (8) sets out the main characteristics of the abstracts prepared at the ILO, including the abstracts produced within the framework of ISIS by the Central Library and Documentation Branch and published fortnightly in *International Labour Documentation*, and the abstracts of the CIRF, prepared independently by the Vocational Training Branch.

This discussion of the systems of educational documentation adopted by international organisations cannot be pursued for lack of space ; but this brief outline should suffice to show that these systems must be taken into account in the preparation of EUDISED. Reference to them should not be a mere formality ; the Steering Group realises that such reference must be active and must govern both the organisation and the methods of EUDISED. If EUDISED is to be integrated in larger entities capable of disseminating educational information collected in Europe to other parts of the world and, in return, to enable the countries of Europe to benefit from experience gained elsewhere, it must take steps now to comply with the pattern of the existing systems. If we wait too long, we run the risk of creating an inward-looking European network, thus losing as much in terms of give-and-take with the outside as we gain in cohesion at home.

The measures to be taken concern in particular the machinery of information interchange, the compilation of documentation languages and the introduction of a multitiered document analysis system ; they are explained in chapters 5 and 6 of this report.

43. EXISTING SYSTEMS : NATIONAL LEVEL OUTSIDE EUROPE

While it is important to refer, in the preparation of EUDISED, to educational documentation systems of an international character, it is equally important to take account of a national service such as ERIC (Educational Resources Information Center), which has extensive experience of processing educational information by computer and disseminates the products of this process to numerous other countries.

The first EUDISED Report contains a description of ERIC and of the work of the nineteen specialised clearing-houses through which it operates in the United States. Descriptions of ERIC have been published and revised time and time again in introductory texts prepared by the system's sponsors, and there is no need to repeat them here ; information on the characteristics of the system can be found, for instance, in "All about ERIC", a special issue of the *Journal of Educational Data Processing* published in April 1970, with articles by Lee G. Burchinal, Harvey Marron, James L. Eller, etc., or in the study of documentation instruments produced by ERIC (*Current Index to Journals in Education, Research in Education*, etc.) by George K. Thompson, or again by examination of the system's most recent products (*Putting Research into Educational Practice* or *Current Literature Awareness Service Series*). On the other hand, it would be useful to consider the relationship between ERIC and EUDISED, if only to gain a better idea of the technical feasibility of setting up a link between them.

In this respect, the meeting at the IBE of the Steering Committee on Educational Documentation and Abstracting Services, which was attended by Lee G. Burchinal, representing ERIC, and the EUDISED rapporteur, brought a number of facts to light :

First, it was seen that the situations of ERIC and EUDISED with regard to the IBE programme were identical. The IBE uses both systems to gain access to information from the United States on the one hand and from Western Europe on the other, which it then puts to service in a network designed on a world-wide scale. It is also planning, for the development of its documentation language, to give equal consideration to the *ERIC Thesaurus* and the *Multilingual EUDISED Thesaurus*, not omitting to refer to the *Aligned List of Descriptors* and other terminological tools such as the *Information Retrieval Thesaurus of Education Terms* by. G. C. Barhydt and C. T. Schmidt and the *Thesaurus for Information Processing in Sociology* prepared by the rapporteur.

In the opinion of the Steering Group, this equality of treatment amounts to *de facto* recognition by the international body of the *geographically* and *culturally* localised nature of the two documentation services. This does not, however, mean that other equally important facts can be minimised.

(8) THOMPSON, G. K. *Abstracting services in education and the social sciences : a study of document analysis techniques useful for the development of a computer-based decentralized information network.*

One is that EUDISED lags a long way behind ERIC, in so far as it is not yet operational, whereas ERIC has been for some years. In this respect, reference to ERIC can be extremely fruitful : the American system offers the European system a model of organisation which is worth studying ; it also offers a documentation language in English of which a number of elements may be taken over in the multilingual EUDISED thesaurus ; further, it provides good examples of documentation products (bibliographies, indexes, magnetic tapes, microfiches, etc.) which could prove very useful in the European context.

A further fact is that the two systems are inevitably complementary. The IBE simply places them side by side in the same package, but we can surely go further and try to bring about a genuine interpenetration. Whether this can be achieved or not will, in the last resort, depend on demand, but it can be predicted from a number of signs that the users in Europe, like those in the United States, will require information from beyond their geographical or cultural frontiers. To meet this demand it will, naturally, be necessary to avoid any ambiguity in transmission and any distortion of the message ; but if the necessary precautions are taken in the development of the Thesaurus and in the practice of document analysis, there can be no doubt that the common interests that ERIC and EUDISED share will be such as to ensure effective two-way communication.

44. THE NEED TO ADAPT TO THE INTERNATIONAL CONTEXT

Having shown in this way that, in addition to rapidly developing national projects for educational documentation in the European framework, there exist in other parts of the world and in international organisations, information systems concerned wholly or partly with education, the Steering Group *recommends* that the preparation and implementation of EUDISED take careful account of the international context in which the system is to be introduced. For obvious reasons, connected with efficiency and the need to fit the facts, this context appears to the Group to dictate the broad outlines of EUDISED's organisation and also to determine the selection of the methods best suited to the achievement of the desired aims. The organisation and methods of EUDISED will now be examined in the light of the principles agreed upon in the meetings of the Steering Group and of the conclusions of the commissioned studies.

5. Structure and operation

No regular interchange of educational information between European countries can take place without organisation of some kind ; it requires an institutional framework and rules assigning to each element a place in the network and a part to play.

The Steering Group's thinking on organisation is guided mainly by two texts :

The earlier of the two texts is contained in the final pages of the first EUDISED report ; it proposes a model, to which the Group has not seen fit to revert, not having had occasion to test it in practice ; it then identifies the main components of the system : the EUDISED Co-ordinating Centre, the Language Area Co-ordinating Centres, the National Co-ordinating Centres, the Specialised Documentation Centres (SDC), and the various SDC chains, each with a Co-ordinating Centre.

The second text is the study commissioned from Dr. Kurt Spangenberg on the *Organisation of a decentralised network for the exchange of educational information at the European level*, which defines the frame of reference of the proposed system and Part 5 gives a detailed explanation of what this system must be, with particular reference to the functions that each of its components must perform.

We shall draw from these sources only what seems necessary to give the Steering Group's view of the structure and operation of EUDISED. If the presentation is somewhat sketchy, the general sense is preserved. The ideas the Steering Group has about the European Documentation and Information System for Education admittedly still remain theoretical, whatever the seemingly concrete elements that might be found in a close reading of the sources. The theory cannot be proved until the conception becomes a reality — and it is up to the Governments to see that this happens.

Partly because abstractions must be avoided, but also because the Steering Group finds it extremely advisable to enter safe ground as soon as possible, this introduction to EUDISED will deal first with the type of organisation required by the system at national level.

51. NATIONAL INSTITUTIONAL FRAMEWORK

511. *Priority given to national information services*

The concrete part of EUDISED consists of the documentation services which already exist in each country and use advanced techniques. National projects are fundamental to EUDISED, and if information were not processed in the member States, the Council of Europe project would not only fail, it would lose the very reason for its existence. No international information system for education can possibly be constructed in Europe if it disregards the action being undertaken in this field by the countries concerned. Certainly, international governmental organisations have been known to develop documentation systems, but these have been designed either for processing internal documents, or in order to make up for the total lack of information centres in developing countries or regions. In Western Europe, the problem is not so much to find a stop-gap as to guide reorganisation moves so as to make them fully effective. It would therefore be futile to impose a documentation programme from above, in the name of the international organisation, if the national institutions had not themselves designed it and begun to apply it. The Steering Group *recommends* that from the outset account be taken of the situation at the national level in the creation of EUDISED. This consideration should determine the general conception that one may form of the system and the creation of the instruments which its operation requires ; it should govern both the organisation of EUDISED and its methods.

The previous chapter gave an account of the findings of the inquiry carried out to pinpoint the most modern documentation projects in each country ; it now remains to examine the additional elements that must be taken into account in order to give EUDISED concrete form.

512. *Elements of a national system of educational documentation*

The first elements to be considered are, of course, the *institutions*. Those which implement advanced projects have been identified in the inquiry and are of various kinds : in addition to ministries and large establishments whose administrative divisions and subsidiaries cover the whole area of the country (a good example in France is the Institut National de Recherche et de Documentation Pédagogiques and the 23 regional centres of educational documentation responsible to it) there are also organisations, generally located in university towns, whose desire for change in documentation methods gives them the appearance of pioneer enterprises. Some of these institutions may be

concerned with the educational field as a whole, others with single aspects only (language teaching, adult education, programmed instruction, etc.) : these are known as Specialised Documentation Centres. There are also those which, without carrying specialisation any further, may fit into well-defined categories : documentation centres attached to educational institutes, for example. In addition to these institutions which are, by definition, fundamental to EUDISED, there are all those which still adhere to the most conventional documentation methods, but are likely to be converted to the system sooner or later.

At the present state of development of the advanced projects, it is fairly clear that the institutions last described are the most numerous, and that the system must from now on be organised in such a way as to allow them to fit in when the time comes. Similarly, if the system is to reflect national situations as concretely as possible it must allow ample room for the most specialised information; this information may pass directly through specific subject-oriented distribution channels, or it may enter an overall documentation pool to be retrieved on demand. Finally, one must take into account the organic links between establishments (INRDP and its 23 regional documentation centres) that exist to organise the collection and dissemination of information at national level ; consideration must also be given to the distances between institutions and the location of available electronic equipment. At the institutional level, many variables have therefore to be integrated ; other variables are brought to light when user characteristics are considered.

The *users* are divided into categories by Kurt Spangenberg in his study, and the national documentation system should recognise all of them. No doubt the number of these categories is still somewhat arbitrary and the inquiry conducted by the Steering Group into advanced projects points to conclusions on this matter which will soon become obsolete ; however, it would be useful, in the first instance, to consider the categories described by Kurt Spangenberg (see his chapter on *The Education Community*). The system should meet the expectations of each of these categories and, to do this, it should explicitly embody their information needs assessed on the basis of a sufficient number of user profiles. The flow of information from the system should be adequate, not only for the number of categories, but also for the numbers within each category ; it seems necessary for each country to base its educational information system on statistical data, which often signify the options open.

Further aspects of the organisation of the documentation system at national level are revealed if we attempt to distinguish the *types of information* to which the system will be applied. The information may be numerical, implying the creation of a data bank, or it may be purely bibliographical, of the kind furnished by an abstracting service. Either type of information may concern institutions (of education or research), individuals (teachers, researchers, pupils), current or proposed research projects, teaching media, innovations, methods, laws and decrees, etc. The system must contain special inputs and outputs for each of these types of information. Furthermore the capacity of the system will be decided in advance by the amount of information of each type that it is planned to process (so many research projects, so many journal articles, so many theses, etc.).

Finally, *the products* that may be expected at the output must also be considered as variables : for instance, if electronic techniques are employed, the products may be conventional documentation instruments such as bibliographies, indexes or inventories ; alternatively, the required information may be projected directly onto a terminal screen or recorded on magnetic tapes and discs ; again, it may be preferred, as there is sometimes a demand for them, to compile composite reports describing the latest research developments in a specific sector, currently practised techniques, or the state of the art.

Obviously, all these variables that affect the design of an educational information system of a kind which modernises the conventional documentation methods, can be taken into consideration only within the national framework. This is the only framework in which a conception can be guaranteed to fit the facts. By adhering to it, and by taking from each member state the factual data best able to fill in the sketched outline, it will be possible to provide EUDISED with its firmest foundations.

But it is also obvious that this result will not be attained in any country unless the co-operation of existing services is secured, particularly those concerned to overcome the "crisis" in information. One can hardly expect these services to determine their several aims in a spirit of co-operation, in such a way as to avoid any overlapping, and to deploy their resources in a joint effort to disseminate information to the best possible satisfaction of all users, if there is no central agency with the power to convene the essential meetings at regular intervals and, if necessary, to settle disputes.

513. *EUDISED National Committees*

This should normally be the duty of the EUDISED National Committees. This title is in no way established and there is no attempt to hide the fact that the nature of the National Committees will depend on the country and the degree of centralisation of its administration. What is important is that the function described above be performed. In certain cases it will be performed by an institution which already exists, in others one will have to be created. This has already happened for example in France where a EUDISED National Committee was set up early in 1971, grouping the principal institutions in any way responsible for the processing of educational information : the Ministère de l'Education nationale, the Institut National de Recherche et de Documentation Pédagogiques, the Centre National de la Recherche Scientifique, the Maison des Sciences de l'Homme, the Documentation Française, etc. ; certain specialised documentation centres are also involved : that of the Institut National de Formation des Adultes and that of the Centre de Recherche et de Formation en Education of the Ecole Normale Supérieure at Saint-Cloud, among others.

If we limit ourselves to this example, a EUDISED National Committee appears as a particularly flexible institution. It is not setting itself up over the heads of existing documentation bodies and aims neither at controlling them nor, in the long term, at replacing them. Assuming rather that these other bodies are recognised in all their diversity, the National Committee will tend to favour the development of each along its own path, and will seek to work out the standards whose observation is the first requirement for any exchange of information. It thus answers, at the national level, to the objectives which EUDISED is pursuing at the European level ; and, *ipso facto*, sees the system introduced in the country concerned. The Steering Group therefore *recommends* the setting up of EUDISED National Committees, or their equivalent, whenever possible.

514. *National Co-ordinating Centres*

The National Co-ordinating Centres for educational documentation and information were described in the first EUDISED report as the principal elements of the system to be set up. In the overall structure these centres are situated below the EUDISED Co-ordinating Centre and the various language area co-ordinating centres, but above the national Specialised Documentation Centres and somewhat apart from the networks these may constitute at the international level.

The fact that they are *centres* distinguishes them from the EUDISED National Committees, and at this level it is not so much a question of uniting the efforts of documentation undertakings or of defining the conditions for fitting them into the European system, but rather a matter of the organisation of documentary material and of ensuring the effective collection, processing and dissemination of information on education. The extent of this difference will of course depend on the country concerned and the level of centralisation of its documentary system ; it seems necessary, however, to maintain the distinction in principle and to define separately the functions of the two elements.

The functions of the National Co-ordinating Centres are described by Spangenberg in the chapter on *EUDISED as a Computer-Based Knowledge Utilisation Network* in his study quoted above. They are divided into five categories : A. General developmental and administrative functions, B. Special functions, C. Data bank, D. Output, and E. Availability of full texts. It is not proposed to go into a detailed explanation of these functions here. The reader is referred to Spangenberg's study published with this report.

515. *Specialised Documentation Centres*

Equally brief mention will be made of the functions of the Specialised Documentation Centres, even though the tendency in each country is to set them up in increasing numbers.

This trend towards specialisation was emphasised as far back as the first EUDISED report : "It can be gathered from the information available to the Working Party through visits and studies that there are tendencies towards a further diversification of subject fields, an increase in interdisciplinary fields, and an increase in the need for problem-oriented information, e.g. in the field of educational planning. All three trends lead to the establishment of various documentation and information activities and centres, involving a host of problems concerning the limitation and overlap of subject scopes, interchange of processed data, indexing, retrieval, and management" (page 26).

This development is not exclusive to the educational sciences ; it is typical of all branches of science, and to such an extent that it is vital to take it into account if the information services are to keep pace with the progress made in the disciplines. But it looks as though the introduction of computer techniques in educational documentation centres in Europe is taking quite a different path

and adhering to other criteria. The findings of the inquiry conducted by the Steering Group among member States show, as we have already mentioned, that few specialised centres are actually modernising their documentation methods. At a time when the demand for information in specific fields (permanent education, mathematics teaching, educational economics, programmed instruction, etc.) is steadily growing, it may well seem surprising at first sight that the computer is gravitating towards services providing information of the most general kind. No doubt under the influence of the institutions, and perhaps it would be advisable to correct for this by getting the major concerns to make provision for a link between their own systems and the Specialised Documentation Centres. It could be one of the major roles of the EUDISED National Committee to provide incentives in this direction.

The functions of the Specialised Documentation Centres are also described in detail in the study presented to the Steering Group by Kurt Spangenberg. They are in part identical with those of the National Co-ordinating Centres, the difference being that they are exercised in a specific field.

52. MACHINERY FOR INTERCHANGE WITHIN EUROPE

The interchange of educational information among member States of the Council of Europe can be illustrated diagrammatically by three circuits : the first circuit covers all the countries in possession of advanced documentation projects, and links them with each other through the EUDISED National Committees or the National Co-ordinating Centres ; the second is a smaller one, constructed in the same way either in a geographical area (Scandinavia for example) or in a language area (for instance, the German language area consisting of the Federal Republic of Germany, Austria and Switzerland) ; the third circuit joins up all the Specialised Documentation Centres covering the same field (language teaching, for example).

In each of these three circuits, information will be disseminated from regularly supplied banks. Each National Co-ordinating Centre will obtain the documentation (tapes, bibliographies, microfiches, etc.) produced in the other EUDISED countries in exchange for its own ; similarly, any Specialised Documentation Centre may have at its disposal the products of the other centres within the same subject field. As there will be no operating problems once the standards of compatibility are being observed by all, the documentation institutions of a given country will be in a position to meet the demand for educational information both at hom and in all neighbouring EUDISED countries.

While the advantages of having a regular flow o information in the three circuits are certainl great, consideration must be given to the problen of speeding up the service. Between the assembl of the data in one country and their utilisation i another the time lag is bound to be considerable and this is unacceptable when short-term forecast have to be made or when provisions relating to common policy have to be amended. Furthermore it is by no means certain that a country tha receives regular information concerning its neigh bours will be capable of passing on that informa tion to its own teachers and research workers i an efficient manner. Even within the boundaries of one's own country, it is difficult to match supply with demand ; it can hardly be assumed that infor mation processed in France on the basis of French data will automatically satisfy information needs elsewhere ; in any case information is bound to be filtered to some extent in passing from one country to another, since much of the data is of domestic interest only. Lastly, it is clear that the three circuits intersect at several points : a highly specialised question may be submitted to a non-specialist centre, and arrangements will have to be made to pass it on to the competent body.

For these and many other reasons which space does not permit us to enumerate, it would seem that, in addition to regular information interchanges, there should be a sort of *Question-Answer Service* for education. The organisation and procedures of this service might be similar to those of the *Question-Answer Service* for development operating in the International Documentation Network for economic and social development, for which the OECD Development Centre at present provides secretarial services. A description of this Q-A service is given in a working document for the Geneva meeting of the Steering Group, and this should suffice as an introduction. If we decide in favour of a service of this kind, whose operation would be complementary to the regular exchange of EUDISED documentation products, and if it proves possible to transmit questions and answers rapidly using the facilities now offered by the latest advances in electronics, we will have every chance of solving the organisational problems which arise in connection with the interchange of educational information in Europe today.

53. INSERTION IN A WORLD-WIDE SYSTEM

The insertion of EUDISED in a world-wide system comprising the UNESCO/IBE programme and its

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links with the International Documentation Network for development, on the one hand, and with the ERIC system on the other, is made necessary by the whole international context described in chapter 4. No major organisational difficulties arise. The obstacles are more of a technical nature, and concern in particular the compatibility of the thesauri ; they will be mentioned in chapter 6.

Where organisation is concerned, however, it will be necessary to introduce a procedure for regular consultation. This will enable the systems to be reviewed jointly, short-term objectives to be defined and decisions made as to the best way of attaining them through a division of labour. A further purpose of this procedure will be to ensure a direct transfer of experience from one system to another ; it would clearly be illogical to set up services whose exclusive aim is the interchange of information, without providing them with facilities for mutual consultation.

The Steering Group on Educational Documentation and Abstracting Services would seem to be eminently suitable as one of the main instruments of this vital consultation. This Group, set up by UNESCO IBE, (see 421), held a meeting in Geneva in June 1971 attended by the representatives of that organisation and the heads of its regional offices (Africa, Latin America, Asia), together with the Central Library and Documentation Branch of the ILO, the Documentation Centre for Education in Europe, and the US Center for Educational Communication which sponsors ERIC and represented the North American region. Regular meetings are planned, and these should enable EUDISED to consolidate and steadily extend its role on the international scene.

Contacts could also be established periodically with the International Documentation Network for economic and social development, either at the meetings of correspondents of the Q-A Service or at the working meetings of the Group of Experts in charge of the *Aligned List of Descriptors*, who are at present preparing a macro-thesaurus. It would be sufficient for EUDISED to be considered, at regional level, as one of the relay stations for information, available on all problems linking education with development ; its secretariat would then be required to answer questions submitted, although it could first refer them to the National Co-ordinating Centres.

Once a decision is taken on the necessary adjustments in the framework of a world-wide system, relations with ERIC will mainly take the form of an interchange of products. ERIC tapes are already available in various countries of Europe, even though their use is often no more than sporac
the same is true of the microfiches. A scheme co
be devised whereby EUDISED would activate
information provided by ERIC and so make its
more widespread, at least if there were suffic
demand. In return, products bearing the EUDIS
label could be distributed in the United St
through channels provided by ERIC.

Finally, the insertion of EUDISED in a world-w
system of educational information could take pl
through the Specialised Documentation Centres.
take information on language teaching as an ex
ple, the elements of a network can be seen to t
shape within the texture of EUDISED ; this n
work could include the Informationszentrum
Fremdsprachenforschung in Marburg (Federal
public of Germany), the Centre for information
Language Teaching in London, the Bureau Eu
péen de Linguistique Comparée (BELC) in Pa
etc. But at the same time one can see that
network is impatient to extend beyond the lir
of Europe : the BELC in Paris is in constant to
with the Center for Research on Language
Language Behaviour of the University of Mi
gan, and helps in the preparation of the *Langu
and Language Behaviour Abstracts* ; the LIN
project (Language Information Network
Clearing-house System) contrived in the Uni
States in 1967 also has some attraction in its fi
for the European documentation services, and p
cedures will no doubt soon be co-ordinated a
prelude to lasting co-operation.

Much of the machinery by which EUDISED will
inserted in a world-wide system has theref
already been assembled. Some of its compone
are not in working order and others have still
be devised, but this is only because EUDISED
not yet become a network providing an act
exchange of information. However the devel
raent of educational documentation on a wo
scale is tending to give strength to the Europe
demand for such a network. That it cannot aff
to be introspective was foreseeable, and it is n
beginning to be realised that it must be sufficien
organised to take its place in larger entit
without being submerged by them, and to deal
an equal footing with the other systems.

54. THE EUDISED CO-ORDINATING CENTR

It is quite certain that this can only be achieved
providing the system with a centre, and this
exactly what the first EUDISED report recogni
when it arranged the components of the netw
around a centre called the Co-ordinating Cent
but co-ordination is a vague term, and some f

ther explanations are required. Some important clues can be found in the study by Kurt Spangenberg on *The Organisation of a Decentralised Network of Exchange of Educational Information at the European Level*. The author defines the administrative functions of the EUDISED Co-ordinating Centre as follows :

"(i) Developing EUDISED as a decentralised but comprehensive educational documentation and information system according to the frame of reference tentatively described by the EUDISED Steering Group.

(ii) Considering EUDISED as a regional educational documentation and information system within an emerging international one and representing it in the relevant organisations and bodies.

(iii) Trying to organise the international field of educational documentation and information by achieving a division of labour between EUDISED and documentation projects of international organisations neighbouring the field of education. Trying in particular to request these organisations to keep track of their own publications, reports, etc. and preparing lists or tapes to be fed into the EUDISED system.

(iv) Carrying through network studies.

(v) Carrying through experiments with new organisational and technological approaches to improve the utilisation of knowledge capacity of EUDISED".

This description of the administrative functions, like that of the more specific functions relating to the establishment of common standards, to publications or to the storage of information, fits in with the conception of EUDISED as a *decentralised* regional system.

It is not our intention to go into the principle of decentralisation again, since this was clearly set out in the conclusions of the first EUDISED report. It is quite clear that the system we are introducing must be extremely flexible, that its foundation must consist of projects carried through by member governments on their own initiative, and that its essential function, when operating, must be to emphasise the advantages of a wider interchange of educational information at European level, to define the standards most suitable as a basis for that interchange and to formulate instruments for joint use. This view was confirmed at the Geneva meeting of the Steering Group ; the report of that meeting contained these words : "... the EUDISED project, aimed at co-ordinating advanced (national and international) projects on educational documentation in Europe, cannot consider as a sufficient achievement the establishment of a central organisation which would undertake the collection, processing and diffusion of data. What has to be established, is not so much a new institution as a *network* of already existing institutions, with a view to seeing that they provide jointly the necessary possibilities for data exchanges and for satisfying user requirements".

This being so, it is obviously essential that the EUDISED Co-ordinating Centre should be an organisation of some substance. This cannot be found at the level of a Steering Group consisting of experts nominated by member States interested in getting together in a joint system, and whose specific task is to work towards the introduction of the system by defining its technical requirements. If EUDISED is to become a reality and not to remain a mere theoretical scheme, the occasional group or committee meeting will not be enough. The Steering Group *recommends* that the Co-ordinating Centre be given the structure of a permanent team, maintaining the necessary contact between competent authorities, providing incentive to the National Committees or using them to make concrete proposals to the ministers responsible, and acting as the link between EUDISED and international organisations or information networks outside Europe. The same team should also have technical functions which in the first phase would be concerned with the working out of standards and drawing up the multilingual thesaurus ; it would also assume responsibility if required for providing the foundation of a Question-Answer Service for education. To carry out these tasks, the team need not be large, but it must be permanent.

During the preparatory stages, the permanent staff has in fact been provided by the Secretariat of the Council of Europe. This may well be thought to be still the best location for the EUDISED Co-ordinating Centre ; otherwise, a different location may be considered.

It is interesting to recall here the proposal made at The Hague by the French Minister of Education, Mr. Olivier Guichard, in connection with the creation of a European Centre for the Development of Education in the framework of the European Community set up by the Treaty of Rome. One of the main tasks of this Centre would be to provide *information*, and the author of the proposal himself detailed what this implied in an article entitled "L'éducation et l'Europe" in *Le Monde* (9 July 1971) :

"Our knowledge of our own educational systems is poor, and we have little sense of their relativity. One of the first objectives should therefore be to

gain a more thorough knowledge and to standardise the methods of investigation.

"True, efforts are already being made here and there. But the Centre would co-ordinate and generalise this information, especially in the fields most often overlooked : educational economics (arrangement of statistics, accountancy systems, joint studies on the costs of education) ; the structure and operation of the educational systems and the inventory of school and university courses ; information on research in the fields of technology and innovation.

"There should also be organised a sort of inquiry service concerned with vacant posts for teachers, students and researchers. This employment exchange would contribute much to the mobility of teachers and students.

"The processing of all this information is inconceivable unless there exists a data bank utilising the most modern techniques for collection and dissemination. All information would have to be processed in the same way and a single system adopted for handling the data. We should then be able, little by little, to make plans for joint research".

Clearly, the objectives prescribed here differ hardly at all from what EUDISED is justifiably expected to achieve. Are we to conclude from this that EUDISED will find its most suitable institutional backing in the Community ? It is however a fact that the Council of Europe offers today the broader framework for European co-operation in education. And the first concern of the EUDISED Co-ordinating Centre must be to extend its field of action. Being technically the centre of gravity of a decentralised system, it must also remain flexible and avoid those automatic procedural reactions which can, through the irritation they arouse, bring the most desirable harmonisation into disrepute.

6. Common standards

As described in the previous chapter, the immediate objective of the structure and operation of EUDISED is to facilitate interchange of educational information between European countries, transfer of that information to other countries or regions under the terms of any exchange agreements that may be entered into, and, on a wider scale, its dissemination within a world-wide system of which the European system is a part.

This objective cannot be achieved unless a number of technical requirements are met. Unlike the traditional information service which is virtually unconcerned with expansion and accommodates all the idiosyncrasies associated with the practice of a craft, a computer-based documentation industry must adhere to certain rules of presentation if it is to find buyers for its products, not to mention foreign markets. We will now examine these rules and consider how they could best be worked out jointly.

61. REFERENCE TO UNISIST

It is, nevertheless, permissible to wonder whether the question has not already been settled outside the framework of EUDISED. The interchange of educational information, important though it is, is only one sector of a much wider field of technical and scientific interchange ; and although there are problems specific to the educational sciences, there is nothing unique about the actual machinery of interchange in this sector. It should therefore be able to conform to standards which apply in a general way to the implementation of advanced documentation projects and which ensure the compatibility of systems ; or, where agreement on these standards has not yet been reached, they should at least offer a foothold for the recommendations leading up to that agreement.

No doubt it will be sufficient to mention here that EUDISED must make reference to UNISIST. But even if the World Science Information System has still to be set up, UNESCO's feasibility study on the subject (9) certainly deserves serious consideration, together with the programme deriving from it which is designed to permit the application of the recommendations formulated in the study. The EUDISED Steering Group is particularly interested, in direct connection with its mandate, in the following objectives of UNISIST, as stated in the report :

"The co-operative development and maintenance of technical standards in order to facilitate the interchange of scientific information and data among systems ;

"Promotion of compatibility between and among information processing systems developed in different countries and in different areas of the sciences ;

"Promotion of co-operative agreements between and among systems in different countries and in different areas of the sciences for the purpose of sharing workloads and of providing needed services and products" (page 1).

These objectives are covered chiefly by chapters 5 and 6 of the UNISIST report, entitled respectively "Faults and remedies : towards a world science information system" and "Technical developments". Chapter 6, in particular, contains the 14 technical recommendations (out of the total of 22) which concern EUDISED most directly. The first group deals with the improvement of what the report terms "*Tools of systems inter-connection*, such as : (a) permanent records of information resources and their activities, as a pre-requisite to the progress of information sharing policies ... ; (b) standards of bibliographic description, with corresponding machine codes and formats, as well as normalized vocabularies, compatible thesauri, etc., for matters of language control and conversion ... ; (c) telecommunication and processing networks ... A second series of recommendations relates to the *effectiveness of information services* — libraries, abstracting and indexing services, information analysis centres, data evaluation centres — for which various promotional programmes are suggested ... The remaining technical recommendations deal with the *responsibilities of professional groups* — editors, publishers, scientists, information specialists, etc. — in the execution of such programmes ... with a special emphasis on the need to coordinate or stimulate existing efforts in matters of information science education ... and research ..." (page 3).

The EUDISED Steering Group is bound to recognise the merits of these recommendations. More-

(9) This study has now been published in French and in English ; it appeared after the publication of its synopsis, and is entitled : *UNISIST. Study Report on the feasibility of a World Science Information System*, by the United Nations Educational, Scientific and Cultural Organisation and the International Council of Scientific Unions. Paris, UNESCO, 1971., xii + 161 p.

over, its action in its own field is devoted very largely to implementing these same recommendations, and there is every reason to consider EUDISED as a point of application specific to the considerations set out in the UNESCO Study. To give two examples :

— *Recommendation 2* stipulates that "Current expert consultations should be continued within the framework of UNISIST to accelerate international efforts through the International Organization for Standardisation (ISO) towards the achievement of standard codes and formats for the representation of bibliographic elements in machine systems, and of unified transliteration rules, character sets, and other related matters". It is clear that, in the specific field of educational information interchange, the EUDISED Steering Group is an agency of exactly the kind whose maintenance is desired, and that its activities in 1970-1971 were very largely directed towards the definition of the codes and formats applicable to bibliographic elements, as R. E. Coward shows in his study entitled *Preparation of a range of standards for educational documentation.*

— *Recommendation 3* stipulates that "An international registry of scientific periodicals should be established as a basis of a system for the normalization of the citations of the journal literature of science and technology". As early as its first meeting in Paris in October 1970, the Steering Group expressed interest in a proposed world registry of journals concerned with the educational sciences, as we shall see later in this chapter.

These examples, which are only two out of many, suggest that EUDISED should be conceived with UNISIST in mind ; while reference to UNISIST is essential, it is certain that the World Science Information System is bound, by reason of its own internal logic, to operate at a high level of generalisation and that its possible applications are difficult to verify in concrete terms. With EUDISED, developing as it does from contact with actual national situations, the approach seems to have been more empirical from the start. While following the path marked out for the creation of a world science information system, and approving the recommendations on the compatibility of systems, the Steering Group considers itself able to testify in its own field, that of educational documentation, to the emergence of a number of standards acceptable to, or already accepted by, the European countries. To turn the spotlight on these, or to show where they will enter the stage when their time comes, we shall now review the various types of documentation activity which the Steering Group has come across in the member States.

62. PERMANENT INVENTORY OF EDUCATIONAL DOCUMENTATION RESOURCES

The first of these activities is beyond any doubt that which the Steering Group itself settled upon when conducting an inquiry into the advanced educational documentation projects in Europe. It is a matter of logical priorities : if one wishes to assess incompatibility, detect overlaps, and fill gaps to achieve a better co-ordination of systems, it is obviously essential to know what the educational documentation resources are. Hence the idea of a permanent inventory, an idea to be given more general expression in UNISIST Recommendation 1, which states that "... UNISIST adherents should be called upon to extend their efforts to survey information services of national, regional or international scope, and to provide for their stepwise integration into a world referral network".

To ensure maximum usefulness and conformity with the general trend towards modernisation of documentation services as a whole, the permanent inventory should, unlike the inquiry conducted into the advanced projects alone, cover all education documentation resources, including libraries. It is only by comparing the most traditional services with the most advanced ones, and adding an international aspect to the survey, that it will be possible to prepare the necessary transformations and avoid (for there are exceptions) replacing useful agencies with old-fashioned methods by new institutions which use refined systems but fail to satisfy user requirements. The questionnaire will therefore have to be amended in such a way as to become an instrument for continuous investigation, acceptable to all European countries. Of course, the questionnaire will also have to be designed for computer processing in order to simplify tabulation and to bring the descriptive notices regularly up to date. Similarly, it will have to be drafted with reference to other instruments of wider scope (for example, those covering documentation resources in the social sciences and humanities) so as to provide a sort of specification of those instruments without loss of intelligibility in its specific field. There is probably a case, in fact, for a pilot study, particularly as it may be found possible to break out an assessment of utilisation from a survey of documentary resources.

The Steering Group *recommends* that such a survey be prepared and carried out regularly, since

the resulting permanent inventory will be indispensable to the practical activities of the EUDISED Co-ordinating Centre, such as the establishment of a Question-Answer Service for education.

63. COLLECTION AND ANALYSIS OF NUMERICAL DATA

Although the problems arising out of the collection of numerical data and the constitution of data banks has not been directly examined this year, the Steering Group is by no means unaware of its importance. In the coming years, demand is likely to be extremely heavy in this area, and the economics and statistics departments of the Ministries of Education will be unable to meet it fully with the resources at their disposal.

Here again, it seems essential to refer to the work being done by the international organisations. At its meeting in Geneva, the Steering Group was informed by the representative of the UNESCO Office of Statistics that efforts had been made by that organisation to collect and compile statistics on education in its member States, using the International Standard Classification of Education. The OECD, for its part, is compiling an international data bank, which will provide information for comparison between countries. Finally, the International Social Science Council some years ago set up a Standing Committee on Data Archives in the social sciences ; this Committee is attempting to achieve the compatibility of systems for the processing of opinion poll data, some of which concern education.

However, it is not enough to know about the activities of international organisations in this field, since none has really settled the principal problem which data banks in the field of education pose, or will soon be posing, namely that of their compatibility. The need for compatible systems is urgent enough in the processing of documentary information, but even more so for the handling of crude data whose interpretation cannot be corrected, if need be, by reference to a context. UNISIST, which considers that data collection is the ultimate goal of processing scientific information, and that there will come a time when, in certain fields, "a data network will be a substitute rather than a complement to the present bibliographic networks" ([10]), leaves the task of providing standardised nomenclatures and data handling procedures to the Committee on Data for Science and Technology.

(10) *Op. cit.*, page 97 (section 6.2.5).

Reliance on CODATA for all work in connection with science and technology can hardly relieve EUDISED of the responsibility of conducting its own specific study in its field. The Steering Group considers that the operating conditions of the educational statistics services in the European countries should be closely examined and the methods most suitable for ensuring their compatibility should be determined in the light of the efforts made elsewhere to standardise data banks.

64. DOCUMENTATION AND DISSEMINATION OF INFORMATION ON RESEARCH

Of all the documentation activities which the Steering Group has had occasion to examine since it was set up, educational research is the one it has covered most thoroughly.

This area is home ground for EUDISED and one in which it finds encouragement to go beyond its immediate purposes and to concern itself with the actual renovation of education : organising the interchange between European countries of information on research needs, current projects, experiments, innovations and findings is surely the best way of turning the documentation industry into an agent of change.

Furthermore, the field of research is one which seems at first sight to be among those most fully covered by documentation instruments at national level. Scarcely a month goes by in which researchers of different countries do not receive some questionnaire or other requiring them to report on their activities, and on all sides, people are organising surveys, publishing inventories, and drawing-up state-of-the-art reports, re-statements and composite reports. Last year, in France, for instance, a number of research workers in the educational sciences were approached with inquiries by several different agencies, while in the Federal Republic of Germany a number of institutions chose to combine in order to co-ordinate their activities in this field and formed the Arbeitskreis für die Dokumentation Sozialwissenschaftlicher Forschung (Bad Godesberg).

Dissemination of information on research takes the most varied forms in each country. To take only the printed publications, the following are found : inventories and catalogues, among which the *Swedish catalogue of current educational research* and the "Scandinavian educational research bibliography" which publishes the *Scandinavian Journal of Educational Research* provide good annual examples, though there are a number of equivalents generally published at irregular intervals such as

the recent French collection *Sciences de l'éducation, Recherches en cours. France*, distributed by the CNRS ; lists of research reports, on similar lines to *Research in Education* produced by ERIC in the United States (see, in Sweden, the lists compiled by the National Board of Education) ; enumerative bibliographies such as the *Bulletin signalétique du CNRS : Sciences de l'éducation* in France and the *Bibliographie Pädagogik* in the Federal Republic of Germany ; annotated bibliographies such as *Sociology of Education Abstracts, Technical Education Abstracts from British Sources*, and the *Training Abstracts Service*, in the United Kingdom, in so far as these bibliographies include research work in their scope ; state-of-the-art reports or research surveys, several of which have recently been published in the United Kingdom (see *Map of Educational Research*, by R. H. Thouless, National Foundation for Educational Research, 1969, or the two volumes so far published of *Educational Research in Britain*) ; monographs or project descriptions concerning a particular field, for example, in Sweden, *Information om Skolforskning/School Research Newsletter*, an information sheet published by the National Board of Education, or *Pu-nytt*, which deals with research and development in higher education ; also, there are inventories of projects pending, such as the one published each year by the same National Board of Education in Stockholm.

At regional level, the Council of Europe set up an *ad hoc* Committee for Educational Research in 1968, one of whose purposes is to promote information. Under the guidance of this Committee, the Documentation Centre for Education in Europe conducts inquiries and every two years publishes the *European Surveys on Educational Research*, in which all research projects conducted in the various countries are catalogued in several volumes. The first research inquiry was conducted in 1968 and its findings published the following year. A second inquiry was conducted in 1970 and published in 1971. In addition to describing research projects conducted by each specialised institution, they contain valuable information on educational research policy in each of the countries and on the documentation instruments existing in that field.

This apparent abundance in fact conceals grave deficiencies. While certain countries, such as Sweden, possess a number of instruments capable of bringing educational research projects to light and effectively disseminating information relating to them, others have practically none. But what is still more important is that there is at present no system, either at national level (Sweden is no exception), or at regional level, providing automatic access to information on research and allowing it to be transmitted to those whom it primarily concerns, namely practising teachers, or disseminated beyond the country's borders. However, plans are being made in some countries, including Sweden and France, to start fairly soon on a permanent computer-based inventory of educational research ; consequently, it is important to make provision now for the co-ordination of all systems. The Steering Group therefore commissioned Esse Lövgren and Sixten Marklund of the National Board of Education in Stockholm to prepare a study on this subject.

Their study is entitled, *Documentation and information diffusion on educational research, development and innovation*, and is based on a model which describes : (a) the dissemination activities of researchers in their capacity as users ; (b) the active engagement of the users in the search for information and their willingness to use research and development results ; (c) the liaison function performed between researchers and users by intermediaries such as education advisers, teachers, innovation leaders, etc. Its examines in turn the transmitters and receivers of information, the content of that information and the means of its transmission, in accordance with the authors' model. It finally emphasises that efforts to create new forms and techniques for documentation and the diffusion of information on research and development cannot be fully effective unless they are integrated in a complete system which includes the alerting of researchers to educational research and development needs, and the training of users by demonstration and further training and by consultation with researchers and innovators.

The Steering Group readily agrees that the compatibility of documentation systems in the field of educational research cannot be properly judged outside the framework of this study, and therefore *recommends* that consideration be given in the formulation of systems to the various elements presented by the model and to the connections between them. It also *recommends*, in accordance with one of the conclusions of the study, that an attempt be made to produce more *research surveys* based on national inquiries. By assessing the results and by pointing out the gaps that remain, these surveys could provide material for comparative studies on a European scale and prove to be one of the most useful documentation products. However, if they are to contain no serious omissions, inventories of educational research must be constantly produced by computer, and here we come up against a problem which only the member governments have the power to settle.

65. INDEX OF SCIENTIFIC PERIODICALS ON EDUCATION

At its first meeting in Paris in October 1970, the Steering Group was given details of a project undertaken by the Maison des Sciences de l'Homme, in conjunction with the International Committee for Social Science Documentation ; this consisted of a survey of journals in the fields of social science.

The project gave rise to the publication of world lists of specialised periodicals in various disciplines and also provided the basis for a card-index supplied to subscribers and kept regularly up-to-date ; thus it could be sure of having its own field of application in the educational sciences for two main reasons : in the first place, there was no up-to-date index of educational periodicals ; secondly, its preparation in accordance with Recommendation 3 of UNISIST concerning the *World Register of Scientific Periodicals* would provide an excellent means of achieving the standardisation of all periodical literature references in a multidisciplinary field.

The project was referred to the International Bureau of Education which gave it favourable consideration and agreed to help to implement it ; at the same time, a working party on periodicals analysis, consisting of representatives of institutions such as the Bibliothèque Nationale, the Fondation Nationale des Sciences Politiques, the CNRS and the Maison des Sciences de l'Homme, was set up in Paris to develop the methods to be used and define the standards to be observed, so that the work undertaken in different countries could be co-ordinated and an adequate computer storage and retrieval system instituted.

The Maison des Sciences de l'Homme, in conjunction with UNESCO/IBE, considers that by the end of 1971 it will be able to begin the survey of scientific periodicals on education and to record the descriptive notices on magnetic tape. For this purpose, it will apply the standards agreed at the time by the working party on periodicals analysis and will use the services of various correspondents in each country or area. To avoid repeating studies already in hand, particular consideration will be given to the methods currently being employed for recording social science periodicals either by the International Labour Office at Geneva, or in the United Kingdom at Bath University (the CLOSS project : Check-List of Social Science Serials, developed under DISISS : Design of Information Systems In the Social Sciences).

For the European countries concerned, the operation could be carried out in the framework of EUDISED. While being conducted with reference to UNISIST and in compliance with the existing standards of the ISO, it is primarily concerned with the world educational information system sponsored by UNESCO/IBE. It institutes *de facto* compatibility between the systems used in the analysis of periodicals in each European country and also between the record structures of the descriptive notices. In this respect, the Steering Group *recommends* the execution of the project, with the index of scientific periodicals on education concerning *Europe* being compiled and kept up to date within the framework offered by EUDISED.

66. BIBLIOGRAPHIC DESCRIPTION. INTERCHANGE BETWEEN COMPUTERS

While the two questions covered in this section are certainly quite distinct, both require roughly the same approach bearing in mind that : "The present picture in machine records compatibility resembles that of bibliographic and content records some years ago, when documentalists alone had to decide upon tentative standards, with little assistance from scientists and engineers" (UNISIST Report, page 70).

661. Taking *bibliographic description* first : the EUDISED Steering Group does not consider itself directly responsible for establishing standards of any kind. The problem of standardising bibliographic descriptions has no aspects peculiar to the field of education ; it would, therefore, be advisable to leave this matter to the numerous national and international agencies which have been tackling the question, specially as detailed proposals have been made very recently in this respect. These were made by the UNISIST/ICSU-AB Working Group on Bibliographic Descriptions set up in 1967 in connection with the UNISIST project and will be described in full in the forthcoming UNISIST reports. It is sufficient to state the purpose of these proposals and to indicate the principal results likely to be of interest to EUDISED, as they are set out in the study published by UNESCO :

"The purpose is to provide unique descriptions for each unit of information contained in bibliographic references, so that it may be identified and processed as the same known quantity by all scientists. All aspects and components of bibliographic references have been envisaged, both from periodical and non-periodical literature ; the major findings are : (a) a basic list of essential data elements, submitted for endorsement by ISO, with suggestions as to a preferred order, and recommendations as to their organization in a standard machine

record ; (b) a standard distinction between several 'forms of title', characterized by changes in language, characters, punctuation or word content, etc. — as compared with the original title — to be indicated by appropriate codes ; (c) . . . ; (d) a survey of current practice on the writing of personal and corporate authors' names and affiliations, compared to the ISO standards on the matter ; (e) the preparation of a standard list of word abbreviations for journal titles, with suggestions for its maintenance on a world-wide cooperative basis . . . ; (f) suggestions for the mention of 'non-essential' data elements — as opposed to those considered under (a) — such as mention of references, summaries, graphs, figures and languages ; (g) proposed standard character sets for machine handling" (UNISIST Report, pages 93-94).

Where each of these points is concerned, the Steering Group *recommends* that the European Documentation and Information System for Education take account of all decisions that are made, so that it can be integrated as effectively as possible with the planned World Science Information System.

662. The question of *interchange between computers* raises problems of quite a different kind, namely those tackled directly by R. E. Coward in the study commissioned by the Steering Group and entitled : *Preparation of a range of standards for educational documentation.*

The problem is one of defining the standards best able to simplify the physical exchange of machine-readable data between systems. In the technical field, the author begins by taking a very realistic view, in paying particular attention to the characteristics of the network that is to be set up. Rejecting all theoretical considerations, he maintains that one factor in the development of this network is the desire for co-operative exchange between institutions with incompatible systems : "Such systems cannot be lightly tampered with or easily changed, and in questions of international exchange, the reality of national characteristics must be given due weight". Clearly, therefore, the specific features of the network determine the standards to be adopted, whether these standards concern the logical structure of the exchange record, the typographical characters and their representation or the magnetic tapes. Mr. Coward examines five features in isolation :

(a) the nature, function and number of the nodes connected,

(b) the nature and amount of information handled,

(c) the direction of the flow of information,

(d) the type of communication facilities employed,

(e) the interaction with other networks.

Only after identifying each factor in the light of the European network as it is actually proposed, does he consider himself in a position to formulate the standards best able to establish communication between computers within EUDISED.

Where the *logical structure of the exchange record* is concerned, he recommends that the proposal formulated by the ISO in October 1970 in document ISO/TC 46 (Secretariat-14) 38 be accepted ; it conforms in all essential respects to American and British standards and has been adopted by the Library of Congress and the British National Bibliography.

After describing the basic structure of the exchange record prescribed in the ISO proposal, the author shows that it provides the framework in which a formula for the insertion of the local network can be found and mentions the requirements which EUDISED must satisfy in this respect. The adoption of a specific standard of this kind is, of course, conditional upon the Steering Group's acceptance of the basic record structure.

The general standard refers to the organisation of records divided into subrecords. No formal standard has yet been prepared for the actual handling of subrecords ; reference is recommended to the techniques used by the British National Bibliography in the MARC II format.

Where *character representation* is concerned, the author recommends that EUDISED adopt the "Library Character Set", which is an 8-bit extension of the American Standard Code for Information Interchange, but has the advantage of leaving the 7-bit ASCII standard intact, the 7-bit code may be derived from the 8-bit code by removing the eighth bit.

Finally, with regard to specifications for *magnetic tapes*, which should be the exclusive medium of exchange within the network, a number of different recommendations are made concerning the width of the tape (1/2 inch), the number of tracks (7-track tapes *and* 9-track tapes), packing density (556 rows per inch for 7-track systems *and* 800 rows per inch for 9-track systems) and the maximum block length (2,048 characters).

The Steering Group considers that these recommendations comply with EUDISED's specific requirements and its necessary co-existence with other international systems in neighbouring fields ; it therefore fully endorses the standards defined by

Mr. Coward in his study ; it *recommends* the governments of member States to generalise the use of these standards for the recording of educational information and mindful of the room they may leave for future improvement suggests that the Committee for Educational Documentation and Information set up a Working Party to follow their application closely.

67. INVENTORIES OF TEACHING MEDIA

Here, as elsewhere, it is useful to start from what is already happening in various countries.

— In the *United Kingdom* the National Council for Educational Technology has put in train a programme for the development and adoption at national level of standards for describing and cataloguing non-book teaching materials. So far as possible these standards will be based on those already nationally applied to book cataloguing. It is therefore probable that a situation is evolving in which all educational documentation can be controlled by common standards.

The programme is based upon a scheme devised by NCET in consultation with the national cataloguing agencies for non-book teaching materials. The scheme envisages the phased building up of a centralised computer store of bibliographic records of non-book materials, to which the national cataloguing agencies would contribute. From this store the agencies would from time to time draw the records needed to produce their specialist catalogues, using computer formatting and typesetting techniques. Records would be edited into standard form governed by comprehensive cataloguing rules, and would be carried in the machine file in a suitable modification of the MARC format already developed for book records.

The detailed scheme has been published (*Non-Book Materials : their bibliographic control*, L. A. Gilbert and J. W. Wright, National Council for Educational Technology, 1971).

In the meantime, NCET has initiated the following activities to lead towards the practical implementation of the scheme (some of the technical points referred to are elaborated in the report commissioned by the EUDISED Steering Group from J. E. Linford) :

i. A preliminary feasibility study has been carried out for NCET by the British National Bibliography. This has given a positive indication.

ii. With the assistance of the British National Bibliography, NCET has produced a pilot catalogue of non-book educational materials, using machine-readable records coded in adapted MARC II format (*HELPIS : A Catalogue of Materials Available for Exchange*. London, National Council for Educational Technology, No. 1, March 1971, 32 p.). Formatted page outputs for computer-typesetting were produced by means of the programs existing at the British National Bibliography for creating a classified sequence of full entries and name and title indexes. A separate subject index was created using the PRECIS system (see the reports by J. E. Linford and G. K. Thompson). A second edition of the catalogue will be published in 1972, prepared in the same way.

iii. A system is being planned for the standard numbering of non-book educational materials, in conformity with that already being used for book items.

iv. At the request of the NCET, the British National Bibliography has designed a system for the computer production of the British National Film Catalogue through MARC II format, using programs of general applicability to non-book educational materials. The Catalogue is being produced in this way as from 1972. Classification is by UDC. The subject index is prepared by the PRECIS method. This catalogue records more than 2,000 non-feature films each year.

v. Computer production of some of the other national catalogues of non-book materials is expected to follow shortly, using the same system suitably adapted.

The possibility exists in principle that the catalogue data tapes could be made available in due course to other Specialised Documentation Centres within the EUDISED network. As all the data will be in a common format, read-out should not present problems, especially if a common interchange format is adopted (as discussed in the paper by R. E. Coward).

— In *France*, the Groupe d'informatique documentaire of the Institut national de recherche et de documentation pédagogiques, has been engaged for over three years in computerising a card-index of teaching media. It recently completed a study on the problems of computer application arising in the cataloguing of materials for teaching or school use. This study, written by C. Bonnefoi in March 1971, is entitled *Un fichier sur ordinateur. Problèmes de prise en charge des documents de base*. It gives a clear idea of the problems that the Groupe d'informatique documentaire has already overcome, as well as those still outstanding, and offers an insight into the work on automatic processing of educa-

tional information at present being done at the INRDP in this specific field of teaching media.

— In *Sweden* too a catalogue is about to be produced by computer ; the system is discussed in a report by D. Englund, *Registrering av läromedel. Rapport avgiven av arbetsgrupp tillsatt av Skolöverstyrelsen* (Stockholm, Skolöverstyrelsen, 22 December 1969, 13 p. plus 10 appendices).

Confronted by these projects and those taking shape in other countries, the EUDISED Steering Group has been concerned to safeguard the possibility of international interchange by working out compatible record procedures and structures. For this reason J. E. Linford, of the British National Bibliography, was commissioned to produce a study on the *Problems of standardisation in the recording of non-book material with special reference to educational media*. After detailing the United Kingdom situation outlined above, this study successively examines the various areas where standardisation appears essential : item numbering, medium designation, data element listing, data element presentation, subject descriptor system, subject indexing control, etc., and suggests solutions most likely to be acceptable to an international network.

Having examined Linford's study with the greatest of interest, the Steering Group *recommends* that it should serve as a model when the member countries are working out acceptable standards. It therefore feels that the study should be submitted to the Working Party whose establishment by the Committee for Educational Documentation and Information is proposed in paragraph 662 above.

68. DOCUMENT ANALYSIS

In this section we will deal only with the *document analysis techniques* used by abstracting services in the field of education ; the problems raised in connection with *indexing languages* will be discussed in the following section on the preparation of the thesaurus.

In order to arrive at an informed decision with regard to document analysis and the techniques that EUDISED might adopt, the Steering Group commissioned Mr. G. K. Thompson, Chief of the Central Library and Documentation Branch of the ILO, to examine the various methods of document analysis used by abstracting services in education.

Mr. Thompson's study, entitled, *Abstracting services in education and the social sciences : a study of document analysis techniques useful for the development of a computer-based decentralized information network*, describes the content and techniques of presentation of abstracts supplied by thirteen different services with particular emphasis given to user access points provided to information contained in the abstracts both by conventional indexing or classification techniques and by computerised methods. He compares the services in terms of the completeness of their coverage, the timeliness with which they deliver the information and the cost of production ; but to make a true assessment, that is to say, to compare the actual quality of the service provided, consideration must be given especially to the number of subject access points in the abstracts and the depth of information available in subject indexes. From this standpoint, the author's conclusion is particularly clear cut : of the various techniques examined, those employed by the ILO and the British National Bibliography (PRECIS system) hold the most promise for a decentralised European multi-lingual information network.

However, far from recommending the use of one technique to the exclusion of all others, Mr. Thompson suggests the adoption of a practice which will embrace the services existing at the present time ; in this he proceeds in much the same way as Mr. Coward, who uses the concrete characteristics of EUDISED as his starting point and pays very close attention to the need to give weight to the existing realities at various points in the network. In particular, he sees the possibility of establishing a compromise among the various techniques by having a system with the built-in but necessary constraints of a thesaurus, coupled with a completely free natural language system capable of providing facts and not just references to documents containing facts. By accommodating different methods in this way, one would achieve a system resembling a pyramid. At the lowest level, one would find references to journal articles characterised by only a few descriptors (*Bibliographie Pädagogik*, for example) ; at the next highest level, one might find abstracts of the ILO type or PRECIS statements ; moving up the pyramid, one would find the services preparing informative abstracts of the *Sociology of Education Abstracts* type ; at the top of the pyramid one would find highly detailed abstracts providing sufficient information to replace consultation of the original document (those of the CIRF or the CEAS of the IBE). Translations of abstracts could be inserted at any level in the pyramid according to user requirements. The users will, in fact, have put the finishing touches to the integration of the services by defining their own parametres and extracting

the information they require in whatever format they designate.

The Steering Group finds this formula for integration extremely attractive, especially as it gives EUDISED, when considered from the angle of the methods used for document analysis, the appearance of a "conversion pool" of existing systems, and as a comprehensive, dynamic model, less inclined to overthrow the existing services than to make them compatible for the greater benefit of the users. This conception was already explicit in Mr. Coward's study on computer formats, and is identical with that which the Steering Group itself has of the European Documentation and Information System for Education. It therefore *recommends* that the conclusions drawn by Mr. Thompson on document analysis be taken into account when the system is being set up.

69. THE MULTILINGUAL EUDISED THESAURUS

At its meeting in Constance in April 1971, the Steering Group examined a study by the rapporteur on the preparation of a multilingual EUDISED thesaurus, and discussed the proposals set out therein ;

- The first proposal challenges one of the conclusions of the first EUDISED report, which favoured the adoption of English as the exclusive indexing language. Taking into consideration the conditions under which EUDISED will operate at national level, the rôle it is required to perform in each country and the function which the documentation language therefore assumes in the system, it seemed preferable to go all out for multilingualism, however difficult that might prove.
- The second proposal concerns the type of documentation language to be formulated : to fulfil the functions dictated by the characteristics of the EUDISED network, it is a *thesaurus* that must be compiled, and not a classification plan or a mere list of descriptors.
- Furthermore, the thesaurus must be *input-oriented*.
- To meet these requirements, consideration must be given not only to the *documents* to be analysed, but also to the *indexes* or glossaries existing in the field and, after investigation, to the eventual *user profiles*.
- *Reference* must be made *to the established languages* (Thesaurus of ERIC Descriptors, Information Retrieval Thesaurus of Education Terms, Economic and Social Development Aligned List of Descriptors, etc.) to ensure terminological compatibility and to enable common standards of presentation to emerge.
- The thesaurus will be built up stage by stage. In *stage 1*, the national institutions concerned in each country or language area will work together under the auspices of the EUDISED National Committees ; the end product will be the establishment of a list of descriptors, in a given language, satisfying the requirements of document analysis experts and users' needs.
- In *stage 2*, the lists of descriptors drafted in English, French, German, etc. will be compared and adjusted, and linguistic equivalence sought.
- In *stage 3*, the thesaurus itself will be developed, and the relationships between descriptors will be signified according to the most current code. The instrument will then be tested.
- The following *time-table* is proposed : stage 1, to cover the first six months of 1972 ; stage 2, to cover the second half of 1972 and the beginning of 1973 ; stage 3 would then extend until the autumm of 1973, or the end of that year ; and the multilingual EUDISED thesaurus would be published in 1974.
- Before any of these operations start, a *preparatory meeting* of representatives of the main national institutions concerned is planned for autumn 1971.

In his study, the rapporteur sets out numerous arguments in support of his proposals. These have been examined and discussed by the Steering Group, which endorses them and *recommends* that the programme now be put in hand. To this end it suggests that the Committee for Educational Documentation and Information set up a second Working Party, parallel with the one concerned with the definition and application of common standards, to look after the thesaurus operation.

The job of this second Working Party will in many ways be similar to that of the first, for compiling a thesaurus is tantamount to standardising the language for documentation purposes, and working it up into a precision instrument for use in indexing. The intention is not to impose restrictions for the fun of it, at the possible expense of preventing the information from getting out, but to guide the information into the only channels capable of leading it to the consumer and to simplify its dissemination from country to country.

7. Summing-up and conclusions

If we survey the activities carried out on EUDISED's behalf over the past year and assess the results, we will see that the general picture is fairly encouraging and that the programme may perhaps be slightly nearer completion than the first report anticipated.

Whereas the first report marks the end of a phase of preliminary brainwork and examines the feasibility of the system with regard to recent advances in computer-based documentation, the second report gives a picture of a service which has passed the phase of being a project and is now in the process of constitution. Having gained a firm hold on reality by making direct contact with the most advanced educational information services, studying the criteria for setting up National Committees in interested member States, discussing its relations with ERIC and finding a place in the network drawn by UNESCO/IBE, it is now taking shape little by little and exerting influence both in European countries and with international organisations

71. AN ESSENTIAL FORM OF CO-OPERATION

In this connection, one can only emphasise the importance of the points of detail that have been settled this year concerning the structure of EUDISED and the technical standards to be observed in its operation. The decisions arising out of the discussions of the Steering Group, and the studies commissioned from experts, mark out with extreme accuracy the area in which the various institutions must co-operate. EUDISED does not simply invite institutions to co-operate without committing themselves in any other way ; it is a system whose principal standards are being defined, and the dedication of each partner will soon be tested by its application of those standards.

Dedication is of course indispensable to the operation of the system, and on this point EUDISED, like UNISIST, considers itself as "a flexible evolving network of existing and future autonomous services which voluntarity agree, in their own interest, to increase their co-operation" (11). There can be no doubt that the necessary dedication will be forthcoming at the opportune moment, especially if we consider the extent to which information needs are increasing and the different directions from which the demand is coming.

Educational information services must take account of the needs of *researchers*, which will certainly increase in the coming years, if the bill to set up specialised chairs in educational research in Sweden is anything to go by ; the needs of *administrators* are no less pressing ; but the heaviest demand is clearly that of the *teachers*, and this will only be satisfied if the information is packaged in accordance with their curricula.

The will to co-operate, motivated to a large extent by the variety of information needs, is also being strengthened now that certain frontiers are being lowered. There is an increasing demand for information from country to country, and only an integrated system of documentation interchange such as EUDISED is in a position to meet it. Need one add that such a system is also justified on economic grounds ? The argument has been put forward so often that it is almost unnecessary to go over it again ; but it is quite obvious that the documentation industry is as subservient as any other to the requirements of low-cost production and rapid distribution ; these, together with the division of labour, entail a certain type of integration.

Even the briefest mention of the reasons for EUDISED's existence makes it unarguably plain that it is no longer enough to harmonise separate systems : what is required is genuine co-operation.

72. PRINCIPAL TASKS

Thus EUDISED will not operate without the dedication of each country or a clear understanding on the part of government and information services of where their interest lies ; even so, the operative phase is not for the immediate future but for stage 3 of the schedule ; and this can hardly be started (except for one or two pioneer projects) before stage 2 is completed.

Stage 2 began in October 1970 with the formation of the Steering Group, and consists mainly of the formulation of common standards and the development of the instruments that are essential if EUDISED is to work properly. While it is true, as this report shows, that much has been achieved over the past year, and while many tasks have been completed, including those of demarcating the subject field, establishing EUDISED in its international and national contexts, studying how to respond to information needs in education, and determining the standards that are to regulate the storage of data, the drafting of abstracts or the preparation of the thesaurus, much is still to be done. The following tasks remain :

— A more accurate knowledge of information needs must be obtained. This knowledge is indispensable if the most suitable documents are to be chosen for analysis; two levels could be considered : documents of national provenance, and those which for a given country come from abroad. For example, little is known today of

(11) *UNISIST. Synopsis of report*, page 27.

the use made in France of some of the documents produced in the United Kingdom, Germany or Sweden ; and yet such facts must be known if the transfer of information is to be properly guided, unless it is preferred to transfer all information in all directions, regardless of cost. Broadly, it would be most valuable for EUDISED to conduct research into information needs, starting from the paper prepared for the Steering Group by J. M. Brittain and, as he suggests, making a careful distinction between the user study model and techniques appropriate to surveying information needs in education.

— A table for a permanent inventory of educational documentation resources must be drawn up and codified (see § 62).
— A decision must be taken on the elements to be used for describing the research projects and how they are to be inserted in the format (see § 64 and 662).
— Work on studying and defining common standards must be followed through (see § 66 and 67).
— The multilingual thesaurus must be compiled in accordance with the procedure indicated (see § 69).

In addition to these operations essential to the technical implementation of the project, close contact must be maintained with the Co-ordinating Centres in member States and with the information services most directly concerned at international level. This task is vital to EUDISED's external relations and must not be neglected. It would be extremely risky to cut EUDISED off from its operational area or to isolate it from its broadest environment during the preparatory period. If we make it an end in itself, if we concern ourselves exclusively with its technicalities, it will never operate at all. In fact EUDISED has no significance outside the concrete realities which it is made to handle ; it differs from certain documentation systems, whose quintessence is conditional on their implantation on empty ground, in that the information services that it is supposed to harmonise must be there before it can exist.

There is one area that will best ensure that the EUDISED project has its feet firmly on the ground, and that is the preparation of the multilingual thesaurus. The completion of this task is the most reliable means of securing the interest of the existing information services in the enterprise and of integrating them from the start by involving them in its development. It will require the participation of the National Committees and of the Specialised Documentation Centres in the formulation of the terminology, and encourage the international services to make their own languages compatible, and from the moment of its accomplishment EUDISED will be a fact. For this reason alone, the preparation of the thesaurus is a priority matter.

73. RESOURCES NEEDED

It will not be possible to compile the thesaurus or to carry out the other tasks mentioned above without certain resources. Some of these resources will have to be provided by the Council for Cultural Co-operation of the Council of Europe ; the remainder will have to come from the national documentation centres or the governments, following advice from the National Co-ordinating Centres.

The Council of Europe will certainly have to retain the responsibility that it has had up to now for EUDISED's public relations and the handling of the project as a whole. The Secretariat has an important part to play in this respect ; as have the two Working Parties that the Steering Group invites the Committee for Educational Documentation and Information to set up. These two Working Parties should be given the resources necessary for them to complete their respective tasks within the next two years. They should also receive support from member countries through the services of, in particular, the national documentation systems.

74. PROSPECTS

If these resources are found and if the support is forthcoming, it is reasonable to expect the EUDISED project to enter its operational period by 1974 or 1975. The prospects will then be those outlined in the first report, in which this period was considered as "a phase of development of a functioning EUDISED with the gradual full participation of all member countries in the project". We will not venture to make long-term predictions, as the development of a documentation system depends on variables too numerous to fit into any reasonable schedule. All one can say is that the establishment of the co-operative system is now on a fairly close horizon. But how to get there ? The Steering Group has considered this question and favours the procedure known, in Council of Europe terminology, as 'partial agreement'. Under this arrangement member States wishing to take part in an activity can join together. The given activity is then specifically budgeted from the Cultural Fund. The partial agreement is administered by the member States that finance it, but all the other States are partners in the system and can benefit from it. The Steering Group feels that the partial agreement arrangement is particularly suitable for EUDISED, insofar as arriving at a co-operative system is concerned ; it therefore *recommends* its application.

Publications

The two series of educational works "Education in Europe" and the "Companion Volumes", published in English and French by the Council of Europe, record the results of the studies of experts and intergovernmental surveys carried out within the framework of the programme of the CCC. We here present the latest publications in both of the series, obtainable from the Council of Europe Sales Agents, as well as some other books published with the support of the Council for Cultural Co-operation of the Council of Europe.

Companion Volumes

EUROPEAN CURRICULUM STUDIES - BIOLOGY
by A. Saunders

Strasbourg, 1972, 144 pages. Distribution free of charge.

The Committee for General and Technical Education of the Council of Europe has in recent years become increasingly interested in curriculum development. One manifestation of this interest is the continuing support it has given to what has become known as the OCESCE Study (Oxford/ Council of Europe Study for the Evaluation of the Curriculum and Examinations) of which this present study on biology forms part. Several of the results of the Study, concerning mathematics, Latin and modern languages, have already been published either under the auspices of the CCC or commercially.

The OCESCE Study, which is carried out at Oxford in the University Department of Educational Studies, examines at European level the aims and objectives, the programme content, teaching methods, evaluation and assessment, and future trends in the development of curricula for the students at the upper academic secondary level. An analysis of the official and semi-official publications of the member countries has resulted in an overall evaluation representing the state of a number of subjects.

The Study supplies data concerning curriculum theory in member countries, which should facilitate agreements on educational equivalences between the various European countries. To some extent this is a function of what might be termed the congruence problem : how far are terminal school courses in one country adaptable to initial courses in higher education in another ? The aim is to collect raw material upon which pedagogical decisions made by educational experts at international conferences could be based.

The present publication on biology exemplifies the wide diversity that still exists in teaching programmes in this subject at the upper secondary level. Nevertheless, current trends towards harmonisation, and even unification, of programmes can be discerned.

It attempts at making a survey on the teaching of biology in the upper academic secondary schools in Europe, with particular reference to the most specialised courses in this subject, indicating those areas which might prove worthy of more detailed study.

At the outset of the work, four major research areas were defined : the justification for teaching biology, the subject matter taught, the methods of teaching and the means of assessment used. From the preliminary documentation received, questionnaires were prepared, and sent to member countries. The first of them dealt with the organisational aspects of teaching biology and methods of instruction and evaluation, the second was a list of possible teaching aims, while the third consisted of a list of biological topics classified according to an adapted version of the Dewey decimal classification.

In the light of these informations, the author, A. Saunders, Oxford University, Department of Educational Studies, analyses the question in five chapters : the aims of teaching biology ; the structure and content of the syllabus ; the teaching methods and resources ; the terminal examination, and the general organisation of the biology course

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within the academic secondary school. The book is supplemented by many appendices and tables.

SPORT FOR ALL — LOW COST SPORTS HALLS

Strasbourg, 1972, 66 pages. Distribution free of charge.

This book forms part of the series of activities on low cost sports facilities, the first of which was devoted to the study on swimming pools.

A systematic organisation of the exchange of information and the pooling of experience in this field would contribute greatly to the European co-operation and to the construction of the best facilities at most advantageous cost.

The question of low cost sports halls was discussed at a Symposium organised by the Netherlands Government in Amsterdam in October 1970. The conclusion of the meeting were drawn up on the basis of guidelines prepared by the General Rapporteur, Mr. D. H. Schmüll.

Part One of this publication includes the full texts of lectures given at the Symposium. The three aspects of the subject — socio-cultural, technical and economic — are here discussed at length. The Second Part is devoted to the conclusions adopted and addressed at the close of the meeting to those responsable for the planning, building and administrating of sports halls. The work also contains a number of plans and tables.

Other publications of the CCC

CULTURAL CO-OPERATION — AN EXPERIMENT

Strasbourg, 1972, 54 pages. Distribution free of charge.

The present brochure was submitted to the UNESCO intergouvernmental Conference on cultural policies, which was held in Helsinki in June 1972. The Conference, which gathered the Ministers of Culture of the European States, aimed at discussing the bases and prospects of European cultural co-operation.

The objective of the brochure is to give an overall view of the activities of the CCC. The First Part summarises the main results of projects in the fields of permanent education and cultural development. The Second Part lists, by way of examples, the achievements, in particular, in areas such as socio-cultural facilities ; experimental study of the cultural development of European towns ; analytical instruments of cultural development ; television and cultural development, and the aesthetic aspect.

Information Bulletin

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